THE CULTIVATOR.

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THE CULTIVATOR

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(*Each no. containing 16 pages,*)

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THE CULTIVATOR.

MONTHLY NOTICES.

Communications have been received since our last, from L. Durand, Richmond, C., R. S. Borden, P. V. C. Miller, C. M. A. J., J. M. Johnson, J. G. B., H. R. Robey, Female Reader, A. B. C., P. F. Cady, Wm. Jennison, R. L. Pell, Doubleyou.

Our thanks are returned to L. DURAND, Derby, Ct., for half a dozen ears of Durand Corn, a handsome 8 rowed yellow variety, which we have distributed among our friends.

To BIXBY & WHITING, publishers, Lowell, for a copy of the second edition of Dr. Dana's Prize Essay on Manures, which can be had at the bookstores—price 12½ cents.

To Hon. H. L. ELLSWORTH, Com. Patents, for a copy of his Annual Report, a notice of which will be found in another part of this paper.

To Prof. HALL, of this city, for a copy of his Address before the Society of Natural History of the Auburn Theological Seminary.

To T. FANNING, Ed. Agriculturist, Nashville, Tenn., for the "Outlines of the system of Education proposed to be adopted in Franklin College, at Elm Craig."

To J. S. SKINNER, Esq., for a copy of his edition of Clayton & Youatt's Cattle Doctor.

To A. L. KENNEDY, Esq., for a copy of the Report of a committee to the Delaware Institute of Sciences on the great rain storm and flood, which occurred in that county, Aug. 5, 1843. This is a very interesting memoir, and the Institute have performed a worthy service in collecting and placing upon record a history of this most extraordinary and destructive storm. The damage sustained in Delaware county alone, is estimated at $250,000.

THE CULTIVATOR FOR PREMIUMS AND GRATUITOUS DISTRIBUTION.—We have been favored this year with an unusual number of orders for The Cultivator for gratuitous distribution and for premiums. Among others, JAMES SLOAN, Esq. of North Carolina, takes 100 copies of the Cultivator, and Hon. J. J. M'KAY, of the same State, 50 of the Cultivator, and 100 of the Museum—The Hampshire, Hampden and Franklin Ag. Society of Mass., 40 of the Cultivator and 20 of the Museum—Newcastle (Del.) Ag. Society, 20 copies of the Cultivator—Brooke and Ohio Counties (Va.) Society, 15—Charlotte Co. Society, New Brunswick, 15—Winnebago Co. Society, Ill., 12—Seneca Co. O., 12—Cortland Co. N. Y. 24—Rensselaer, 16.

MAPLE SUGAR AND MOLASSES.—We have received from Mr. F. M. WAIT, of Windsor, Vt., some specimens of maple sugar and molasses, both of which are superior to any we have seen, excepting the sugar made by Mr. Woodworth, which took the premium at Rochester last year, which was made as described on page 22 of our present vol. That of Mr. Woodworth was, however, *refined*, whereas the only deviation from the usual process, in the manufacture of Mr. Wait's, we are informed, is "strict care that *all* the vessels used are kept *perfectly sweet and clean.*" If nothing more than this is required to make maple sugar equal to the beautiful sample sent us, it is certainly an object well worthy of attention—especially when it is considered that this quality would readily bring in market nearly *double* the price of the common article. The sample sent is very white, pure, and of very agreeable taste. The molasses is also very fine, and we think would be generally preferred to any other kind.

PROTECTION AGAINST THE BEE MOTH.—We have been shown a "bee-protector," so called, invented and patented by Thos. D. Howell, of Chandlersville, Muskingum Co. Ohio. It is a curious contrivance. The bees, in entering the hive, pass over a thin piece of board, so balanced on a pivot that the weight of the bee depresses the end next the hive and gives him a chance to enter. It requires a weight equal to that of the bee, to depress the board so that admission may be gained. The moth being lighter than the bee, (it is said, by three-fourths,) it is stated, cannot get into the hive. When it shall have been fully and fairly tried, we should be glad to learn how it works.

FREAK OF NATURE.—Mr. L. A. MORRELL has left at the rooms of the State Agricultural Society, old State Hall, a horn which grew on the *ear* of a Saxon ewe. It is about two and a half inches in length, and three-fourths of an inch in diameter at the base. It was taken off with the ear on which it grew attached to it, thus showing plainly its origin.

PORTABLE GRIST MILL.—Messrs. Sinclair & Co. of Baltimore, have recently got up a grist mill, which is very highly spoken of by a correspondent of the Marlboro (Md.) Gazette. "It can," says the writer, "be worked by *hand* or horse-power; with two men, it will grind at least three bushels per hour, and with four horses it will grind more than any water-power mill, with one pair of burrs, in the country. The work is done in a splendid manner. The grain can be either simply chopped, or ground into small hominy, or coarse meal, or

made into meal as fine as flour need be. This is done merely by turning a screw. So easily can it be moved, that two men can take it about with as much ease as they can move a corn-sheller or wheat fan. The burrs are of cast iron, and will grind from three to five hundred bushels before they become too smooth for use, when any farm hand can take them out and replace them with others, which cost $3,50 per pair. There is no other part of the machine that will not last an age. The cost is only $40."

"CREDIT."—The paragraph alluded to by the Am. Ag. was taken from some paper, where it appeared without credit. It appeared originally we believe in the Western Farmer's Almanac. We could easily fill a column with a list of articles which are going the rounds of the papers, copied from the Cultivator without credit. Take for instance the following, from papers now on our table: The article on Poultry in the *Ulster Huguenot*, should have been credited to the Cultivator—also, Soaking Corn, in the *Kent News;* the *six* articles on the first page of the *Mercer Co. Farmer* for April; the *five* articles under the Ag. head in the Peterboro Chronicle of April 30; the article on Lucern, in the S. C. Temp. Advocate of April 25, and *two* other articles in the same paper; History of the Mercer Potatoe and Culture of Tea in America, in the Zanesville Gazette of May 15; six articles in the Ag. department of the Spirit of the Times of May 18; *three* articles in the Goshen Clarion of May 23, &c. &c. These omissions to give the proper credit, are undoubtedly accidental, and we have seldom alluded to them. Greater care in this respect is, however, desirable; and we hope those who are in the habit of copying from the Culrivator, will remember to give credit to whom credit is due.

FROST.—There was a hard frost in this vicinity on the night of the 21st of May. Ice was formed on some water which stood in barrels, to the thickness of an eighth of an inch, and in some places the ground was frozen. Beans, and other tender plants, were killed—corn and potatoes that were above ground, were cut down, but not killed. We have just learned from a gentleman from Madison county, in this State, that the damage in that section was quite heavy. That the ground was frozen to the depth of two to three inches, and that great fears were entertained that the fruit is killed.

NEW MODE OF CHURNING.—We saw in the street the other day, a churn which worked itself. It was moved by a weight, which, after having been wound up, would keep the machine in motion till it had run down. A machine sufficiently large to admit of the weight being wound up to the height of nine feet, would run about half an hour. It was invented in Saratoga county, (N. Y.) but we did not learn the inventor's name.

THE WHEAT CROP.—Accounts from every section of our country afford the prospect of a most abundant wheat crop this season. A letter from Lewis Ellsworth, Esq. Dupage county, Illinois, dated May 14, says:—"The prospect of a heavy harvest was never so good. The amount sown exceeds that of last year by at least one quarter, and from present appearances the yield will exceed per acre that of any previous crop. Our spring has been rather cold and very wet, consequently corn-planting is late."

AMUSEMENTS FOR FARMERS' BOYS.—Being lately at the residence of one of our most intelligent farmers, our attention was attracted to the door of a small room in an out-building, which was labelled "——office." On inquiry, we learned that this was a room given up to the boys. Entering, we found it fitted up with miniature implements of husbandry, seeds, of different kinds, a few plants, and branches of ever-green; the walls decorated with portraits of celebrated horses, cattle, sheep, swine, and poultry; while on some shelves, were some geological specimens, and several juvenile books of a character calculated to inspire a taste for rural life, and at the same time to teach correct modes of husbandry, horticulture, &c., the whole arranged in agreeable order. It struck us as an excellent plan, and we would suggest its general adoption. It furnishes the means of both amusement and instruction. How infinitely better it is to allow boys an opportunity of spending a part of their time in thus cultivating a taste for the investigation of those subjects by which their knowledge of nature and the world around them is increased, than in mixing with rude company and becoming contaminated with their vices.

NORTHERN LIGHT.—From a prospectus of this work, we learn that several important alterations and improvements are proposed for the coming year. It will be printed in the royal octavo form, similar to the Cultivator, instead of the quarto, as heretofore, on fine white paper, with entire new type, will be stitched, and enclosed in a neat handsome cover, each number containing sixteen pages. Its columns will be filled with a judicious blending of Literature and Science. Interesting selections will be made, though its contents will be chiefly original. Mr. A. B. STREET, the present talented and accomplished editor, is to be assisted by Dr. T. ROMEYN BECK, favorably known for his former contributions, Professor HALL, a distinguished geologist and man of general science, S. S. RANDALL, Esq., Deputy Superintendent of Common Schools in this State, with other contributors. The talent thus engaged cannot fail to recommend the NORTHERN LIGHT to the favorable notice of the public. The first number of the new series, will appear in the second week in June, and will be succeeded by others on the first and fifteenth of each month. Terms, a dollar a year in *advance*.

FARMING IMPLEMENTS.—Inventors and manufacturers of improved farming implements may find it to their advantage to send models or specimens to the Hall of the New-York State Agricultural Society, in the old State-House, Albany. The Agricultural Hall adjoins the rooms devoted to the Geological collection—is visited by many persons from all quarters in passing through Albany—and articles placed there for exhibition may prove extensively beneficial to the manufacturers as well as to the farming community. Any such articles may be directed to Henry O'Reilly, Recording Secretary of the State Agricultural Society, Albany. ☞ The Agricultural papers in this and other States, are requested to promote the object by copying this notice.

PREMIUM ON COTTON.—The Chamber of Commerce of Apalachicola, have awarded a premium of a tea set to Col. A. M'DONALD of Eufalla, Ala., for the best 20 bales of cotton sold in that market last season. The cotton was sold afterwards at 10½ cts. per lb. The premium for the best 50 bales was awarded to Capt. Thornton of ——.

THE MICHIGAN FARMER.—This is published at Jackson, semi-monthly, at $1,00 a year, by D. D. T. MOORE. It deserves a liberal support, which we doubt not is accorded to it by the intelligent farmers of Michigan.

CHARCOAL.—Our correspondent at Columbus, (Ga.) J. G. W., will find in the back numbers of the Cultivator, which have been sent according to his directions, all the information we can give him on the use of charcoal as a manure. Several experiments were made with charcoal last year, and we should be glad to learn the result—particularly should be glad to hear the results of the trials made of it, by our correspondent, ZA. DRUMMOND, Esq. of Virginia.

WARREN'S HORSE POWER.—W. F. B. of Bushville, Ga. will find the information he wants, respecting the price of this machine, in an advertisement in this paper. We do not know the cost of shipping it to Savannah.

"J. H. M." Adams Co., Pa.—The charge for inserting your advertisement three times, would be $6,00.

S. W., Whalen's Store.—If we can find a person who will answer your purpose, you shall hear from us.

CORRECTION.—The paragraph about "Blind Teeth in MAN," proves to be all a mistake. Mr. Johnson assures us that he wrote "young *mare*," instead of "man."

GINGER BEER.—One pint of molasses and two spoonsfuls of ginger put into a pail to be half filled with boiling water; when well stirred together, fill the pail with cold water, leaving room for one pint of yeast, which must not be put in until lukewarm. Place it on a warm hearth for the night, and bottle it in the morning.—*Selected.*

FOOD FOR WORK-HORSES—TREATMENT FOR "HEAVES."

Mr. E. H. NORTHRUP, of Shoreham, Vt., inquires "What is the best mode of feeding the roadster and work-horse?" "Is there any cure for heaves?"

We do not find the disease here called "heaves," described by that name in the English works. The diseases described under the terms *chronic cough, thick wind, broken wind, wheeze, roaring*, &c., we are inclined to think are in this country frequently confounded under the term "*heaves*." They are all, in a greater or less degree, affections of the lungs. The best food for horses so affected, is that which is nutricious, rather succulent, and condensed into a small compass. Dry food, entirely, especially a large quantity of poor or dusty hay, is very bad for them. Vegetables, such as potatoes, ruta-baga, carrots, &c. are very good. The preference is by some persons given to carrots, but we have tested the good effects of potatoes in such cases, and would recommend their use where carrots cannot well be had. The horse's stomach should not be crowded, and he should be only moderately exercised, especially soon after eating. We have known horses that were said to have the heaves, or to be broken-winded, perform a great deal of labor, with proper feeding and use, for several years; but a radical *cure* is not to be expected.

In reference to the inquiry about feeding, we remark, that the practice of "chaffing" or cutting the fodder and mixing with it the grain, (the latter in a ground state,) is highly approved, and is every year coming to be more adopted. Hay and straw may be cut together, if desired, and if the horse is not hard worked, a great saving may in this way be made.

Youatt, in his Treatise on the Horse, says—"Chaff may be composed of equal quantities of clover, or meadow hay, and wheaten, oaten, or barley straw, cut into pieces of a quarter or half an inch in length, and mingled well together; the allowance of oats or beans, is afterwards added and mixed with the chaff."

He advises the bruising or grinding of the beans and oats. In this country, Indian corn might be properly substituted for beans. Mr. Youatt says the prejudice which some have evinced against bruising the oats is, "so far as the farmer's horse and the wagon-horse is concerned, altogether unfounded. Horses of quicker draught, except they are naturally disposed to scour, will thrive better with bruised, than with whole oats; for a greater quantity of nutriment will be extracted from the food, and it will always be easy to apportion the quantity of straw or beans to the effect of the mixtnre on the bowels of the horse. The principal alteration that should be made on the horse of harder and more rapid work, such as the stage-coach horse, &c., is to increase the quantity of hay and diminish that of straw. Two trusses of hay may be cut with one of straw. * * * For the agricultural and cart-horse, eight pounds of oats and two of beans should be added to every twenty pounds of chaff; and thirty-four or thirty-six pounds of the mixture will be sufficient for any moderate sized horse, with fair or even hard work. The dray and wagon-horse, may require forty pounds. Hay in the rack at night is supposed to be omitted altogether. * * *

"Horses are very fond of this provender. The majority of them, after having been accustomed to it, will leave the best oats given to them alone, for the sake of the mingled chaff and corn. We would, however, caution the farmer not to set apart too much damaged hay for the manufacture of the chaff. The horse may be thus induced to eat that which he would otherwise refuse; but if the nourishing property of the hay has been impaired, or it has acquired an injurious principle, the horse will either lose condition, or become diseased. More injury is done by the eating of damaged hay or musty oats than is generally imagined. There will be sufficient saving in the diminished cost of the provender by the intronuction of the straw, and in the improved condition of the horse, without poisoning him with the refuse of the farm.

"While the mixture of chaff with the corn prevents the corn from being too rapidly devoured, and a portion of it swallowed whole, and therefore the stomach is not too loaded with that on which, as containing the most nutriment, its chief digestive power should be exerted, yet, on the whole, a great deal of time is gained by this mode of feeding, and more is left for rest. When a horse comes in wearied at the close of the day it occupies, after he has eaten his corn, two or three hours to clear his rack. On the system of manger-feeding, the chaff being already cut into small pieces, and the beans and oats bruised, he is able fully to satisfy his appetite in an hour and a half. Two additional hours are therefore devoted to rest. This is a circumstance deserving of much consideration even in the farmer's stable, and of immense consequence to the postmaster, the stage-coach proprietor, and the owner of every hard worked horse."

We have known several establishments where a considerable number of horses were kept entirely for the road, and fed wholly on cut hay with corn-meal mixed with it. A sufficient quantity of hay is thrown into a large trough, wetted a little, and the due proportion of meal mixed, and stirred well together. Corn and cob-meal does well.

In answer to the question of our correspondent, "What food will fatten a horse quickest?" we reply, good sweet clover hay, free from dust, cured with all the heads and leaves on, with boiled potatoes and meal, or instead of the meal boiled oats, will fatten a horse very rapidly; and where the object was merly to *fatten* him, we would use this food.

DEFECT IN POTATOES.

At the Agricultural Meeting at the old State Hall on Thursday evening, April 25th, the subject for discussion was the defect which occurred in potatoes last year. Remarks were elicited from various gentlemen, and the subject seemed very much to engage the attention of all present. Dr. Lee observed that the defect which was complained of here last year, had prevailed in parts of Europe for several years, and he referred to the theory of some writers there, that the defect was occasioned by the degeneracy of varieties from age. The facts brought out at the meeting, did not seem to support the idea that the defect here, could properly be attributed to that cause, inasmuch as it did not appear to prevail most with the oldest varieties. The most hardy kinds, it seems, have been least affected, and the least hardy, as the Mercer, (or Chenango,) Foxite, &c., the most. It was nearly the unanimous opinion of those who spoke on the subject, that the unusual prevalence of the defect, (or as some called it "*disease*,") last year, was caused by the very warm and wet weather, following a severe and long continued drouth. This idea was supported by many statements that potatoes which were planted on dry soil, and so early that they reached maturity before the great change alluded to in the season came on, were scarcely affected at all, whereas the same varieties planted later and being in an immature state when the change took place, were nearly worthless when harvested, or had become so during the winter.

Dr. Emmons made some remarks on the nature of the defect. He had taken some pains to examine it, and he considered it quite analagous to *gangrene* in animals—he was satisfied it was not a fungus. He should suppose it would render potatoes unwholesome for animals, and he had heard of several cases where it was believed they had occasioned the death of cattle; but he knew a man who had given them in large quantities to hogs, and had not yet discovered any bad consequences from it to them.

It was the general opinion of the meeting that it is best to plant potatoes as early in the season as the ground is in suitable condition. The yield, it was thought, was generally better, and they were less liable to blight, or defect of any kind.

CUCUMBERS.—A writer in the London Gardener's Chronicle, says he has entirely discarded the old mode of allowing cucumbers to run on the surface of the ground, He trains them to trellises, and finds that he has not half the trouble with them that is required by the old plan, and that the plants continue much longer in bearing, when so treated.

MINERAL MANURES.

Of all the manures termed mineral, those that come under the denomination of *sulphates*, or those in which the mineral base is combined with sulphuric acid, are perhaps the most important. Of these, the sulphate of magnesia, (Epsom salts,) sulphates of potash and soda, and sulphates of lime or gypsum, are the most common and useful.

The action of the sulphates is most conspicuous on the cultivated grasses, leguminous plants and the roots; on grains they do not produce results as decisive, though occasionally instances of great benefit from their use may be adduced. The chemical analysis of plants, carried on so successfully by the German experimenters, by determining the constituents of the several cultivated plants, has shown which of the mineral manures are the most necessary for each; and the results thus arrived at, are the more satisfactory, as they are found in the main to perfectly agree with those obtained in practice. To show this, we here append a table, for which we are indebted to Johnston's Chemistry. It shows the constitution of the ash of several grasses and clovers, so far as relates to the sulphates. One hundred parts of the ash of each was examined.

Sulphates.	*Rye grass.*	*Red Clover.*	*White Clover.*	*Lucerne.*	*Sainfoin.*
Potash,.....	8·81	19·95	31·05	13·40	20·57
Soda, ...	3·94	5·29	5·79	6·15	4·37
Lime, ...	7·31	27·80	23·38	48·31	21·95
Magnesia,.....	0·90	3·33	3·05	3·48	2·88
Sulphuric Acid,	3·53	4·47	3·53	4·04	3·41

Great as is the effect of the sulphate of lime on white clover, farmers we think will generally agree that it is exceeded by the action on red clover, a result to be expected from the table; and still greater is the effect on lucerne, as some limited experiments made by us have demonstrated. This too, the analysis would indicate. The sulphates of potash we have never used, but the European journals declare the results of experiments on plants to conform to the analysis, and that as a dressing for white clover, it is superior to the sulphate of lime. Another useful hint may be taken from this table, which is, that a quantity of the sulphates which would be sufficient for one kind of plant, would be insufficient for another. Thus compare rye grass and clover, and it will be seen that a top dressing which would cause the first to thrive, would scarcely be felt by the latter. So far as regards the common grasses, rye grass, herds grass, timothy, &c. the nitrates are more efficient in promoting their growth than the sulphates, while for the clovers and their kindred plants, the sulphates are to be preferred.

If, as Prof. Johnston supposes, the value of the sulphates is to be mainly attributed to the sulphuric acid they contain, it would be important in forming an estimate of their respective values as a manure to ascertain the several proportions of sulphuric acid. This may be seen in the following table, in the first column of which the proportion of acid is shown, and in the second, the quantity of each that a gallon of water at the ordinary temperature will dissolve. Thus 100 lbs. of burned gypsum contain as much sulphuric acid as

126 lbs. common gypsum,	Gypsum burned 1-6th lb. to the gall.
128 " sulph. of potash,	" unburn. 1-4th "
104 " " soda dry,	Sul. of potash, 1-2 "
235 " " " crys.	" of soda dry, 1-2 "
180 " " magnesia.	" crys. 3 1-2 "
	" of magnesia, 4 "

These tables prove that the sulphate of lime is much the cheapest and best application of the sulphates, admitting that the value depends on the acid alone; and if we adopt the opinion of Liebig that its principal value is found in its being an absorbent of ammonia, the result will not be essentially different. Its effect too, will be the most durable; as the small quantity soluble in a given quantity of water, will prevent its speedy solution and disappearance in the soil. Where, however, plants are obliged to rely mainly on dews instead of rains for their moisture, a dressing of sulphate of soda or magnesia would be preferable, as more readily soluble. The better way then of applying the sulphates of soda or potash, would be in solution, very weak, and sprinkled over the growing crop from a water cart. Prof. Johnston thinks 100 lbs. per acre would be sufficient.

Considerable difference of opinion has existed among farmers as to the best time for the application of sulphate of lime to the soil or crops. We have found the most benefit when applied directly to the plants, but whether applied to the soil or to the crop, we have rarely if ever found it fail. We prefer using it after the plants are well advanced, and this opinion would seem to receive countenance from the experiments instituted by Prof. Korte to test this point. The plant was clover, and it was found that the produce of different parts of the same field was in the following proportions:

Undressed,.....	100 lbs.
Top dressed, 30th of March,.....	132 "
" 13th of April, ...	140 "
" 27th of April, ...	156 "

This result would seem to confirm the opinion of Peschier, that gypsum on the leaves of plants is converted into a carbonate, by the absorption of the sulphuric acid.

TURNEPS.

Turneps are better adapted to light, than heavy soils. Sandy soils that are too light for potatoes, will frequently give a good crop of turneps, by the application of a top-dressing of ashes and some compost manure.

As a crop for winter feeding, the turnep is valuable, both for sheep and cattle. The common English flat turnep, may be sown as late as the latter part of July or the first of August, in this latitude, and will give a good yield. This kind does pretty well for feeding the fore part of the winter, but becomes soft and corky by January, and is not worth much. Other kinds keep better. The Yellow Aberdeen and the Swedish or Ruta Baga are probably as profitable for late feeding as any. The Ruta Baga should be sown in June, (as early as the 20th) to ensure the greatest yield. Much depends on the quality of the seed, and care should be taken to get that produced by the best shaped roots, and the more particular has been the selection, and the longer it has been continued, the better will be the seed, and the truer the roots. The same principle applies in this case as in animals—*selection* is the grand source of improvement. The turnep comes to the greatest perfection in rather northern latitudes; hence it is quite an object to obtain seed from those regions. The English and Scotch are usually very particular in selecting their turneps for seed, and on this account their seed is generally preferable.

The Ruta Baga keeps well, and with proper care will be good till May. It is considered a good root for sheep and young stock, but is not so well liked for milch cows on account of its tendency to impart a flavor to the butter. On this account, carrots or beets are preferred for cows.

The yield of the turnep crop, varies according to the quality of the soil, cultivation, &c., from 400 to 800 bushels per acre. The flat turnep may be sown after a crop of hay has been taken off the ground, and if well cultivated, will do well.

We prefer the *drill* mode of sowing turneps. It is the most exact—the roots are made to occupy the ground better—there is a better chance of working among them to keep down the weeds—there is a saving of seed, and a general saving of labor and expense, besides getting generally a better yield.

There are various machines for sowing seed. There is one made in the vicinity of Boston at a cost of only about five dollars, that answers *well* for sowing turneps, onions and seeds of that size. Others may be had of larger size, at ten to fifteen dollars.

For the Ruta Baga, the rows may be two feet or more apart, so as to give room for working the spaces with a small harrow or cultivator. By planting two rows pretty close together, say a foot apart, the other spaces may be left three feet apart, which will give ample room for the use of the cultivator, and the crop will not, probably, be diminished in yield.

Sprinkling gooseberry and currant bushes with soap suds, is recommended to prevent mildew.

CANE FLY OF GRENADA.

Through the politeness of JOSEPH I. DILL, Esq. of Bermuda, we have received from the Agricultural Society of the Island of Grenada, drawings of an insect called the "cane fly," which from 1831 to 1836, was the cause of great damage to the planters of that Island by its attacks on the sugar cane.

From the drawings and description, we have little hesitation in pronouncing the insect an *aphis*, a numerous tribe of parasitic animals, of which almost every plant has its peculiar species. We had not before heard of one belonging to the cane, and should be glad to learn whether it has been known in the sugar districts of this country. Its sudden appearance and exit at Grenada, as will be seen from the following communication, is very singular:

The insect was first discovered soon after the hurricane of 1831, and made its appearance on the windward coast, or St. Andrew's parish; it was therefore generally supposed to have been introduced by means of the hurricane, but it is not quite certain that it had not existed in the Island previous to that time, for a disease appeared among the canes on Telescope estate, some years before, but that was partial and created little inquiry, as the damage sustained was but trifling.

Its disappearance in the early part of 1836, is enveloped in as much mystery as its appearance; during all that time, every means was tried to destroy it, but without success; the cane leaves were washed with a mixture of soot, quick lime, lees from the distilleries, and all sorts of ashes were applied; tarred boards were used as traps, immense numbers were destroyed, but they continued to increase and spread.

At first, its ravages were confined to the vicinity of the St. Andrew's great river on the sea coast, and the estates in that immediate neighborhood suffered most throughout; some of them to the extent of three quarters of their usual crops, some two-thirds, and others one-half; for instance, estates averaging a crop of 300 hogsheads, were reduced to 60 or 80—gradually lessening as the insects increased from 1831 to 1834-5, when it was at its worst; estates in the interior suffered much less than on the sea coast. Cane cultivation being almost continuous from the above river in the direction of St. Patrick's, the insects spread rapidly, but where it was interrupted by brush or provision grounds, their progress was comparatively retarded. I am not prepared to state the extent of the damage sustained from St. Patrick's round to the lee side of the Island, but I believe it to have been much less than in the district above alluded to; a few were seen as far Beausjour, about 6 miles from St. George's.

From St. Andrew's towards St. David's, the cane cultivation is more interrupted, their progress was slow, and but little damage sustained; they did not reach Sesesse estate, which was their extreme point in that direction, until the year 1835, and not until the canes were sufficiently advanced in growth to defy their ravages. As before stated, early in the following year they disappeared simultaneously throughout the Island.

General remarks.—The insect commenced its ravages so soon as the young canes began to shoot, depositing its eggs on the backs of the canes as thick as possible. The plant immediately sickened, changed color to yellow, and from that to black; the leaves became covered with a glutinous substance, and the young canes either died, or their vegetation was so materially checked as to prevent their ever arriving at maturity; consequently the small quantity of sugar made from them was of very bad quality. Whole fields were thus completely blighted. On walking among the canes, the insects would rise in clouds.

During the prevalence of these insects in Grenada, I managed an estate in St. David's parish. In August, 1835, I went to England for the benefit of my health, and carefully preserved in a box prepared for the purpose, some infected plants, and I succeeded in conveying them alive to London, with the insects on their leaves in every stage, from the egg to the matured living fly. I placed them in the hands of the merchants in whose employ I then was, and whose estates, particularly in St. Andrew's parish, had suffered to the extent of many hundred hogsheads of sugar. I went away to the country myself, and my time was completely occupied, so that I know not what was the result of their inquiries, if any, relative to the insects; but I subsequently heard that my box and plants had been sent to the Entomological Society, London.

A GRENADA PLANTER.

HAY MAKING.

We think it best to cut grass for hay, as near as possible to the time when it is in fullest bloom. Of course, if it is cut when most of it is in this state, some may be a little past, and some may not have quite reached full bloom. We know there has heretofore been some difference of opinion as to the stage grass should be in when it is cut, but we believe the experience of the best farmers is in agreement with the position above assumed. Those who are in the habit of curing herbs, cut them when in this stage, because it is known that they contain at that time the most of that peculiar principle from which they derive their efficacy and value. The saccharine or sugar principle, which constitutes one of the chief sources of nutriment in herbage, is found in the greatest quantity at the period of bloom. It may sometimes be expedient to cut grass before it has reached this state; particularly where it falls down, and is in danger of souring or rotting. When this happens, it should be cut, whatever state it may be in, because if it remains on the ground it will spoil, and the fermentation which takes place, will destroy the roots. Another great advantage in cutting grass before the seed forms, is that the roots are not so much exhausted, and the after growth is much more vigorous.

In some parts of the country, it is the practice to mow the grass and let it lie untouched on the ground, "thro' sunshine and shower," for several days before it is stacked or put in the barn. It is quite common to begin Monday and continue to mow till Saturday, when with hand-rakes and horse-rakes, all turn in, take it up and stack it; and this is done too, without much regard to the state of the weather at the time it is raked, or to what it may have been after it was cut. The appearance of the animals which are fed on hay thus managed, is evidence enough of its worthlessness.

After grass is cut and partly dried, it ought never to be exposed to dew or wet. The best way is to spread out the mown grass evenly, as soon as the wet has dried off from the spaces between the swathes, and before the dew falls in the evening, rake it and put it in cock. Where the crop is heavy, considerable time will be gained in making, by this plan. If it is only wilted when it is put in cock, it will in a short time undergo a *sweat*, which will much facilitate its making when it is again opened to the sun. Many good farmers believe that it will make more in two days, if it is kept in cock twelve hours, than it will make in three days without being put in cock.

In making clover hay, we are decidedly in favor of not exposing it much to the sun after it is first wilted. We speak from experience, having practiced various modes, and we are certain that it may be made with less labor, and that it is of far superior quality, when cured in cock, than in any other way. When the swathes are a little wilted, pitch them into cocks—laying it up in such a manner that it will stand the weather, which is easily done by the exercise of a little care. Examine the hay from day to day to see how the process of curing advances, and when it seems to be so well made that with what it will dry in handling, it will do to put in the barn or stack, turn over the cocks, loosen up the bottoms a little with a fork, and proceed to load it. Clover hay thus cured, is not likely to heat in the mow or stack, and from having every leaf and head saved, will be found to be very nutritious and much relished by all animals. In fact, we believe that clover hay, properly cured, will make more flesh, milk, or butter, than any other hay, pound for pound. The prejudice against clover, has arisen from the bad manner of curing it. Knocked about as it frequently is, wet and dried by turns, it loses its leaves and heads, and becomes little else than a mass of tasteless stems, which no animal will eat.

DICTIONARY OF TERMS USED IN Agriculture and its kindred Sciences.*

NICKING.—This is the name of an operation performed on the tail of a horse, to cause him to carry it in a more elevated position. It consists in cutting the tendons in several places on the underside of the tail, by the aid of a keen pointed knife, and then keeping the tail elevated by means of pulleys, &c. until it has healed. As the practice can scarcely fail to injure the strength of the animal, and as besides it is cruel and barbarous as well as useless, the practice should be exploded by all breeders or owners of this noble animal.

NIGHT SOIL.—The excrement produced in privies and cess-pools, a mixture of fæces and urine, has received this name, since its power as a fertilizer, has, under various names or forms of preparation, brought it into extensive use as a manure. Berzelius found 1,000 parts of night soil to contain

Water,.....	934 parts.
Urea (peculiar animal matter,)	30.10
Sulphate of potash,.....	3.71
" soda,.....	3.16
Phosphate of soda,.....	2.94
Muriate of soda,.....	4.45
Phosphate of ammonia,.....	1.65
Muriate of ammonia,.....	1.50
Acid matter,..... ..... Acetate of ammonia,.... Animal matter and urea,..	17.14
Earthy phosphates and fluate of lime,.....	1.00
Mucus,.....	0.32
Silica, (earth of flint,).....	0.03
	1,000.

On the continent of Europe, under the name of Flemish manure, from the country where it first came into general use, it has for many years been highly prized, and procured, wherever possible, without regard to expense. Its disagreeable and offensive nature, directed the attention of scientific men to the means of disinfecting it; and various means have been resorted to in preparing it for use. In China, night soil is mixed with rich marls, made into thin cakes, and constitutes a regular article of traffic. In Germany and France, it is mixed with lime, charcoal, peat, or other substances, dried thoroughly into a dark colored powder, and under the name of *poudrette*, sold to agriculturists and gardeners. In the U. States, the manufacture of poudrette is carried on extensively in New-York and Philadelphia, and the manufacture will doubtless extend to all the populous cities and villages of the country. There is scarce a crop that is not materially benefitted by the use of night soil as a manure. It seems to be equally excellent for grain or roots; indeed we should naturally infer from its origin, that it would be valuable for all plants intended as food for men or animals. From some experiments made in England, it appeared that while the simple soil gave but 12 bushels of wheat per acre, when heavily dressed with night soil, the yield was 37 bushels per acre. Of potatoes, where the product of the simple soil was only 120 bushels per acre, a heavy manuring of night soil produced 650 bushels per acre. Used in the same quantity, it fully equalled bone dust, and was far superior to any other. On common farms it is not to be expected that this manure can be prepared in as scientific a manner as where regular manufactories exist; but there can be no good reason given why this source of fertility should be so much overlooked or neglected. Where out buildings are properly constructed, there is little more difficulty in preparing and removing this substance, than in disposing of any other. Charcoal, gypsum, ashes, peat, or even common loam, well incorporated with night soil, and dried or not, as the farmer pleases, can be used with little offence to the most delicate and fastidious. Such composts will be found the most effective of fertilizers, and the result on many plants, will prove truly astonishing.

NITRATES.—A combination of nitric acid with an alkali, forms a salt called a nitrate. Of these, those called nitrate of *potash* or saltpetre; and nitrate of *soda*, or cubic petre, are the only ones worthy of notice; and these, it is evident, occupy a prominent place among the agents that influence the growth of plants. Nitrate of potash, or saltpetre in its crude state, is principally brought from the East Indies, although large quantities are produced in Persia, Egypt, &c., and it can be manufactured in all countries with greater or less facility. In its pure state, it is composed of nitric acid 52 parts, and potash 48 parts. Nitrate of soda is composed of nitric acid 62.1 parts, and soda 37.9 parts. It is principally obtained from Peru, where it is found in the desert district, some 3,000 feet above the Pacific Ocean, in immense quantities, and of which, a most interesting account was given in a late No. of Prof. Silliman's Journal of Science.

The use of the nitrates for the purpose of agriculture, can scarcely be claimed as a modern improvement, since Virgil, Fitz Herbert, Evelyn, and many later writers, have spoken of its use and value. It is probable that the value of these salts arises from the amount of nitrogen they contain, since when nitrogen is evolved, it combines with oxygen, and thus forms nitric acid, which is the base of these salts. When powdered, and strewn upon the soil, a decomposition takes place, and the nitrogen appears to be made available to the plants, while the alkaline matter enters into new combinations in the formation of silicates, &c., essential to the growth of plants. There are indeed a few plants into which saltpetre enters as a constituent of the plant itself. Such is the horse radish, sunflower, nightshade, &c., but with the exception of barley, in which nitrate of soda exists in small quantities, neither of the nitrates has been detected in any of the cultivated crops of the farmer. It would seem then, that it is not as a direct article of food to plants, that the nitrates produce their result when applied.

The nitrates are most valuable as manures, when applied to light soils of gravel or sand; and an amount of about 100 lbs. per acre is found to be the most effective dressing. On wet, or heavy clay soils, it produces little effect; in this respect, resembling the action of gypsum or sulphate of lime. Experience shows that it produces the best effect when made fine, and used in moist weather. On clover, wheat, and grasses and grains generally, its operation is admirable, but in this country, where gypsum can be obtained at rates so low, compared with the nitrates, it is not probable they will ever come into use extensively. Where the nitrates are used, the grain or grass assumes that peculiar rich, deep green color, not observed, unless where manure containing nitrogen or ammonia in considerable quantities has been used. Those who wish to investigate the subject farther, will find abundant means of doing it in the Chemico-Agricultural works of Liebig and Johnston.

NITROGEN.—A gas, which constitutes 79-100ths of our atmospheric air, and which is formed by the decomposition of a great variety of substances, is called at the present time, nitrogen, though formerly known as azote, from its destructiveness to life. In the air, it exists as a chemical compound with oxygen, but when combined with this substance, it forms nitric oxide, nitric acid, &c. Combined with hydrogen, it forms ammonia, one of the most essential elements of vegetation. It enters into the formation of animal matter with the exception of fat and bone, forms a part of most vegetable alkalies; and though in its gaseous state, fatal to animal life, the experiments of Majendie, confirmed in a most remarkable manner by the chemical researches of Liebig, prove that animals cannot exist for any length of time on food destitute of nitrogen. Nitrogen has long been considered as one of the simple elements, but the experiments of Faraday would seem to render it probable that it is, after all, a compound. In the parts acted by various agents in the nutrition of plants, nitrogen exercises a most important one, as the action of the nitrates when applied to soils or crops, demonstrates. Indeed, it seems to be very satis-

* The publication of this Dictionary of Agricultural Terms was commenced in the 7th vol. of the old series of the Cultivator, and continued in that and the succeeding volumes to the termination of the letter M. It was written by our late associate, Mr. Gaylord, and the portion we now give, concludes the series written by him

factorily established, that the value of manures is to be estimated principally by the quantity of nitrogen they contain or are capable of furnishing for the use of plants.

NUTRITION.—The value of different substances for nutrition, or for promoting the growth of animals or plants, varies materially, and as all cultivation has for its end this principal object, the proper understanding of its nature, and the best means of effecting it, has long been a subject of anxious research. It must be acknowledged however, there are many points connected with this most important function of nature, still involved in mystery; while these researches have thrown considerable light on the general questions involved in the inquiry. The substances that nature employs to promote growth and sustain life, are termed *food*, whether employed for the nutrition of plants or animals; and if the latter cannot exist on the materials that support the former, it does not render less important the action of the former.

The original elements of nutrition appear to be but few in number; and there appears to be a regular gradation in the perfection of organization and combination of the materials required for nutrition, from the most imperfectly organized vegetable, to the highest limit of organization, as existing in man. Each plant or animal in the scale, feeds on materials prepared by the one placed below him; and which appears to have given to the elements a new combination for this express purpose. From this beautiful provision of nature, there is no deviation, except such as is forced and unnatural. Materials once organized, and endowed with life, never lose the power of contributing to life in a much greater degree than those not so endowed; hence the necessity of some medium between animals and unorganized matter, a medium filled by the vegetable. Man compels all organized matter to contribute to his sustenance; he alone appears to be omniverous; yet man finds some substances better adapted to his nutrition than others, and frequently pays the penalty of disregarding the admonitions of nature on this point. It is a singular fact, that of all the substances used for the purposes of nutrition, there is but one and only one intended for this purpose and for nothing else, and that one is milk. A knowledge of this, has greatly aided the researches into the practical value of different substances for food, as it was reasonable to suppose that those containing the same elements as milk, or which by the action of the stomach could be converted into such, would be the most valuable; a result fully justified by experiment and observation.

Of meat, the most nutritive parts are the muscular, or the dark colored meats, while the white meats, fat, gelatinous parts, &c. contain much less that is suitable for nourishment. This result seems to be owing to such parts containing less nitrogen, or the principle termed ozmazome, and hence are unsuitable for those whose digestion is impaired or defective. Of meats, lean beef contains the most nutritive matter, and is for the purposes of food, of course superior to all others. Of plants, wheat contains the most nutritive matter, containing, according to the reports of Percy and Vauquelin, 80 lbs. in 100. It is true the same chemists rated beans higher than wheat, as they did peas; but later investigations do not seem to have sustained them in their decision, although in all cases peas and beans have ranked next to wheat. Butcher's meat, on an average of the common kinds, gives about 35 lbs. in 100 of nutritive matter; and potatoes only about 25 lbs. in 100. "Thus 1 lb. of good bread is equal in nutritive power to 2¾ lbs. of the best potatoes, and rather more than equal to 2 lbs. of meat; while 75 lbs. of bread and 30 of meat are equal to 300 lbs. of potatoes." (Johnson on Food.) There is one thing, however, that must not be overlooked in all discussions on nutrition, and that is, that when substances containing the most nutritive matter are taken exclusively, more is used than is required, as the material of distention as well as nutrition is required in all substances taken as food. To the healthy action of the stomach, without which the functions of nutrition must be imperfectly performed, it is indispensable that bulk should be combined with the nutritive matter in proper proportion, and it is this that in no small degree constitutes, so far as convenience and health is concerned, the actual value of any given article of food. A man or an animal will indeed live for a time on those substances alone, that contain the most nutriment; but experiments prove that they will not retain as good health or do as well as when a portion of more bulky and less nutritive food is combined with the richest. Thus a horse will not do as well on wheat, as on oats, because the bulk of the latter is better proportioned to the nutritive matter required for vigorous health than in the former. Indian corn too, one of the richest of all articles in nutriment, should always be given to animals in connection with cut straw or chaff of some kind, or no small portion of its value is lost, and the animal not unfrequently injured. We know of some excellent observing farmers, who prefer mixing one-third oats with the corn they give their fattening pigs as food, and would prefer the oats even at the same price as corn, rather than feed the latter alone. Farmers complain that barley does not agree with horses as food. The reason is they do not in feeding, take into account the greater amount of nutriment contained in barley over oats, which make the common standard of feed so far as bulk is concerned, and hence the horse, as when fed with wheat, becomes fevery and ill.

A comparison of the several kinds of vegetable food, generally used for the purposes of nutrition, cannot but be useful, as showing the farmer what quantity of one, may be substituted for another. The following table, given in Burger, from Petris' work on the "care and keeping of sheep," may be considered as a list of equivalents. It will show that while of some an animal could scarcely eat enough to support life, of others the nutriment would greatly exceed what the wants of the animal demanded.

100 lbs. sweet, well cured meadow hay, containing 50 lbs. of nutritious matter, are equal to

90 lbs. clover hay,	100 lbs. of which contain	55¼ lbs. nutritive matter.
90 lbs. tender vetch hay,	do	55¼ lbs. do
90 lbs. tender lentil hay,	do	55¼ lbs. do
360 lbs. wheat straw,	do	14 lbs. do
500 lbs. corn straw,	do	10 lbs. do
180 lbs. barley straw,	do	27½ lbs. do
200 lbs. oat straw,	do	25 lbs. do
200 lbs. pea straw,	do	25 lbs. do
190 lbs. millet straw,	do	26½ lbs. do
200 lbs. horse bean straw,	do	25 lbs. do
180 lbs. chaff,	do	27½ lbs. do
200 lbs. potatoes,	do	25 lbs. do
200 lbs. cabbage turneps,	do	25 lbs. do
200 lbs. yellow turneps,	do	25 lbs. do
400 lbs. white turneps,	do	12½ lbs. do
300 lbs. beets,	do	16¾ lbs. do
500 lbs. white cabbage,	do	10 lbs. do
82 lbs. Indian corn,	do	95 lbs. do
82 lbs. wheat,	do	95 lbs. do
55 lbs. rye,	do	90 lbs. do
61 lbs. barley,	do	82 lbs. do
64 lbs. buckwheat,	do	78 lbs. do
71 lbs. oats,	do	70 lbs. do
54 lbs. peas,	do	93 lbs. do
54 lbs. horse beans,	do	93 lbs. do
83 lbs. wheat chaff,	do	60 lbs. do
105 lbs. wheat bran,	do	48 lbs. do
109 lbs. rye bran,	do	46 lbs. do

To keep in equally good condition, it appears from various experiments, says C. W. Johnson, that a horse will consume as much food, besides grain,

As.....	8 sheep,
A cow as much as.....	12 "
A fattening ox as much as.....	10 "
A 3 year old heifer as much as	8 "
A 2 " "	6 "
A 1 " "	4 "
A calf as much as.....	2 "

CURE FOR SORE TEATS.—Archibald Jones, Esq. of Frankfort, Me., writes to us that a good remedy for sore teats is to make an application to them of molasses at the time of milking. This confirms what other friends have communicated on this subject.—*Boston Cultivator.*

CONDENSED CORRESPONDENCE.

EARLY IMPORTATION OF MERINO SHEEP.—In speaking of the importation of Merino sheep by Mr. Jarvis, in the April number of the Cultivator, we alluded to an importation made into Massachusetts by Mr. Seth Adams, now of Zanesville, O. We have since received a letter from Mr. A. giving an account of his importation, in which he says:—"I imported in the brig Reward, Capt. Hooper, which left Diepe in August, 1801, and arrived in Boston in October following, a Merino ram and ewe. These I believe were the first pair of Merinos imported to the United States. The Agricultural Society of Mass. having offered a premium of $50 for the importation of a pair of sheep of a superior breed, Col. D. Humphreys of Connecticut, imported a flock of Merinos, (say 100,) and sent some of them to Massachusetts, and he, or some one for him, applied to the Society for the premium. Knowing, from report, that his sheep did not arrive before the spring season *after* the arrival of mine, I applied at the same time for the premium, and after having examined the sheep and wool, and comparing with those of Col. H., the Society awarded to me the premium, and awarded to Col. H. a gold medal for having imported a larger number. My sheep were from the flock brought from Spain by Bonaparte, and distributed through France to improve the flocks of that kingdom."

PIGEON WEED OR RED ROOT.—"C. M. A. J." of Tompkins County, says—"The plan adopted by the farmers in this section of country, is by plowing in the fall, the usual time of sowing wheat; again in the spring, when the ground can be used for summer crops of any description, and I will guarantee, yea more, I will stake my reputation upon it, that all that makes its appearance in the fall and spring, will *never* do so again. This method is considered with us, the most economical and effectual of any yet discovered, of *eradicating the evil. Try it, and you will know.*"

FARMING CAPITAL.—From a communication by Mr. L. DURAND, we make the following extracts:—"I think it correct to say, that a liberal expenditure of capital in farming, will ultimately pay better than when laid out in any other business. The difference between capital laid out in farming, and that laid out in manufacturing, is, that all which is expended in the latter beyond the actual profits of the goods manufactured, is a dead loss, while that which is laid out on the farm, under good management, causes it to improve and increase in value from year to year. In manufacturing, the interest on the capital may be received within six months or a year. In farming, it may not be so, but it will be sure to give its return in a series of years. Another item which has been much neglected by farmers, is that of purchasing *good implements* to carry on their farming operations. In this country, where manual labor is high, a farmer should obtain as many labor-saving implements as can be used to advantage. Although these implements may cost more at first than common ones do, they will find their account in it at last. Get the best implements to be had, even if you have to go out of the State for them, and you will thus be able to perform more work in a better manner, besides saving much labor, and preventing a great deal of *fretting* and ill temper. Try it and see."

NAMES OF ANIMALS.—A correspondent with the signature of "JUNIUS," has sent us a long communication censuring what he calls the "misguided tastes of many of our breeders of fine stock in selecting names for their animals." We think his remarks entitled to some consideration, but can only find room for the following extract:

"It seems to be a desirable object with many, to select refined, genteel and pleasing names for their favorite animals, at the expense of modesty and etiquette. To me, it has been a source of mortification, to see old and cherished names of my own family, and respected acquaintances and neighbors, applied to soulless brutes. Go into any school-house in the land, and you will see bright looking boys and girls, with countenances flashing with the soul of genius and thought, answering to the same names that are applied to the inmates of the stables, cattle-yards and pig-sties. Not long since, I was called on to give a name to a bright eyed little cousin of mine. Feeling the responsibility of my trust, I had recourse to the 'old family bible.' After looking over a long line of ancestry, I found a name that sent a thrill of pleasure through my nerves: it was *Emma*. The present to accompany the name was bought; but imagine my surprise, in looking over my paper for that month, I found a statement that Mr. —— had a poor broken backed cow (sacriligiously) called Emma, that gave a great quantity of milk, from which was made 3 pounds of butter per day. To use a tailor's expression, I was completely '*sewed up.*' But to confess the truth, the tenderest point of all, is this; the name of the fair enchantress of my dreams, is *Julia*—for my especial *benefit*, Mr. —— has a mammoth Durham cow, which he calls by the same name! What an association! Now my Julia is beautiful and accomplished, speaks French, and plays the piano and guitar, &c.—she is a scion from one of the first families in the state. Hear Mr. ——'s description of his Julia. 'Julia is six years old—a thorough-bred Durham from the stock of Mr. ——. She combines more good points than I ever saw in any other animal. She is broad in the hips, long and straight on the back, thin in the neck, well cut up under the jaw, round in the barrel, fine in the twist, has a prodigious udder, is deep and broad in the bosom, evincing good constitution, &c.'

"The idea of giving notoriety to an animal, by means of a fine name, is, I think, indicative that the owner has a '*strong cross*' of vandalism. When animals attain the organic perfection of man, when they are endowed with a soul to reason and will to execute, then they may be considered entitled to the names, titles, and property of our species."

BEES.—To stop bees from fighting and robbing one another, break the comb of the robbers so that the honey will run down among them, and they will go to work at home. I had two hives of bees destroyed this month by being robbed, and should have had another robbed, if I had not received the above information. R. S. BORDEN.

FRUIT.—Mr. George Olmstead, of East-Hartford, Conn., informs us that Mr. Horace Williams of that town, gathered from five trees last fall, 160 bushels of apples, of the *Belle le Bonne* variety, which sold in market at 42 cents to $1,50 per bushel. Mr. W. thinks that he realized from the above trees, at least $100, equal in value to 200 bushels of Northern Indian corn, one year ago.

SALINE MANURES.—Mr. Feuchtwanger informs us that he is prepared to sell the super-sulphate of soda at half a cent per pound. This substance, when mixed with manure, or other animal substances, will be decomposed, and a sulphate of ammonia formed. He has also the crude and refined sulphate of ammonia, at 6 and 8 cents per lb., also, nitrate of soda by the bag at 5 cts. per lb. Mr. F. informs us that his compound chemical whale oil soap, is composed of the crude whale oil, potash, flour-sulphur, lime, and oil of camphor, and is a very valuable antidote for the coccus, rose-bug, curculio, &c., and it is said has been used with good effect in the orange groves of Florida.

FARMING IN CONNECTICUT.—Our friend "QUERCUS," after stating some of the difficulties and perplexities attendant on commencing farming operations on a soil which had been worn out by bad management, says:—"So, the year has gone round—all the avails not counting 3 per cent on any respectable estimate of the value of our 300 acres! This is not a fancy sketch. I can even count dozens in no better condition, from my window, now; but nine out of ten are mortgaged. None of their managers take the Cultivator, you may be sure. But how do they live? They sell a little wood, and burn coal and live cheap, and buy nothing for money, and shoot foxes; starve their cattle and eat the carcass! But 'my man,' some bluff westerner would say, 'give away your land, (for I know it can't be sold,) get you a bit of our unexhausted soil, and begin again.' It is the easiest thing in the world to give advice to those of whose circumstances you have no knowledge. Still were no circumstances in the way, I should be loth to think and act upon the thought, that a proper degree of energy and skill and

foresight, will not spread fertility like a mantle, all over these rocky hills and these mossy meadows. Beside there are attractions here—there are warm hill-sides in winter, and cool, rustling breezes in summer, and glorious old oak woods, and a hundred brawling brooks, that (you may laugh, if you have a mind to,) if the memory of their noisy prattle runs back to boyhood, call louder on a man, than the yellowest mint drops.

"At any rate, I will try what can be done to make my farm worthy of a history. If the resources which such men as Mr. Jas. Johnston have opened to view, be not *humbug*, if the system of changing crops, of multiplying manures, of more effectual tillage, of adequate protection to cattle, if careful feeding be not wholly impracticable, if the history of your most successful croppings be not fairy tales, and the *locum in quo* a fairy land, why, *something shall be done here*. The progress of my trial, I shall open in scattered continuations of this history, neither exaggerating or concealing, in the hope that it may possibly be useful."

AGRICULTURE OF MICHIGAN.—Our correspondent "P." of Buffalo, says:—"In a recent trip through several counties in Michigan, I was agreeably surprised to find so great improvement in agriculture. Many farms in the older settled counties will compare favorably with the best improved farms on the line of the Erie canal; and the large surplus products they are sending off, particularly of wheat and flour, are a sure and very gratifying mark of great agricultural prosperity in the State. The rail road from Pontiac, the county seat of Oakland, though but 26 miles in length and carrying only the products of that county, brought to Detroit the last fall over 40,000 bbls. of flour, besides large quantities of other produce. The Central Rail Road running west from Detroit, was also crowded with freight cars the most of the season. Agricultural societies have sprung up in several places, and are producing a visible and happy effect among the farmers; and I observed a notice of a fair to be held in the spring, I think in Lenawee county, for the purpose of buying and selling stock and hiring help. Would not such fairs be specially useful in New England and New York? The soil in large portions of Michigan is admirably adapted to the culture of wheat, and 35 bushels per acre is not an uncommon crop among the farmers. There is, however, but little appearance of system, or of a proper rotation of crops, and the skinning practice prevails. The course pursued by many is to crop the land constantly for a few years, and then sell out and take up the line of march westward. Still Michigan, possessing generally a very rich soil, and water communication around it and through it equal to any State in the Union, and streams for an abundance of mill-sites in almost every connty, is destined to attain a high rank in agriculture. The tide of immigration, arrested somewhat in past years by reason of an injudicious system of taxation, which is now in a measure abandoned, is beginning to roll in upon the State as formerly; large fruit-bearing orchards and thrifty nurseries appear here and there even in the newer counties, and a bold enterprise marks the general movements of the people. Success to thee, Michigan, in all that pertains to the culture of the soil and the mind; let your poultry-yards be graced with poland chickens, your piggeries with Berkshires and Woburns, and your fields with many more Durhams and Herefords, and you cannot but prosper."

PLASTER ON POTATOES.—Those who plowed green sward last fall for the purpose of planting potatoes this spring, will find that a spoonful of plaster, applied as soon as the potatoe comes up, will increase the harvest. Plaster seems to aid the potatoe on all kinds of land, though not equally. We have seen soils where a common spoonful of plaster proved as useful as a shovelful of manure.

If the land is in good order and the soil sufficiently mellow, the potato vines will need but very little hilling. The potatoes will make a bed for themselves in the rotting sod. We have raised at the rate of 400 bushels to the acre without hilling up enough to hide the plaster; it could be seen through the summer.—*Bost. Cult.*

COWS.

We make the following extract from an old volume of the Mass. Ag. Reports, both because an extended observation has convinced us that the quantities stated are in the main correct; and because it appears to furnish matter for some useful reflections:

"A milch cow of *medium quality* in this State, (Mass.) will give, it is supposed, 12 quarts of milk per day for 2 months after calving, and about 7 quarts per day on grass feed for the next four months, 4 quarts per day for the next two months, and perhaps 2 quarts per day for one month longer. Altogether, 1,500 quarts in a year.

It takes 9 quarts of milk to give a lb. of butter, and 4 quarts to yield a lb. of cheese. The skim milk and dairy whey of a cow, may be valued at $3 per annum.

Now a cow that gives 1,500 quarts of milk in a year will produce

166 lbs. of butter, worth at 16 cts. per lb.	$26,56
Skim milk, ...	3,44
	$30,00

Or 1,500 quarts of milk will give at 4 quarts to the lb. of cheese,

375 lbs. which at 8 cts. per lb. will be,..	$30,00
Whey, ...	3,00
	$33,00

Nothing is said of the worth of the calf, as all the milk the cow gives is credited. A milch cow's keeping in the interior cannot be much short of $25."

That a majority of cows kept by our farmers for milk, do not give a greater quantity than that here named, will it is believed, be readily admitted. The prices, both of produce and keeping are higher than at present; but as they will neutralize each other, there is no necessity of taking them into the account. It must also be admitted, that there are many cows that greatly exceed the quantity of milk here stated, and some that yield more than double that amount.

That by attention to the breed of animals; to the rearing and selection of the stock from which the cows are to be chosen, to the choice of bulls from breeds of known milking qualities, and attention to the milking of the heifers, and proper feeding of them, cows in general could be brought up to standards in which the milk should be nearly or quite double the present ordinary quantity, we think there can be little doubt. It is because farmers have been contented with so low a standard, because with them "a cow is a cow," no matter what may be her milking properties, that the average amount of milk produced by them is so small.

It is not a very extraordinary cow that holds her milk for 10 months, that will give 8 quarts at a milking for two months, 6 quarts at a milking for the next four months, 3 quarts at a milking for the next 3 months, and 2 quarts per day for another month. Yet such a cow would yield 3,000 quarts of milk in a year, and of course the products of butter and cheese would be doubled. Admit that it was necessary to expend five dollars to procure materials for extra feed for this cow, bran, shorts, or grains, to be fed in mashes, (for it may be considered a fixed rule, that to keep cows in equally good condition, the greatest milker must receive the most food,) and with the exception of this expense, the profit of such a cow would be double that of an ordinary one.

The keeping of cows is much like the cultivation of land. If the crop does not reach a certain amount, there is a loss to the farmer, or the crop may precisely equal his expenses, the year leaving him as it found him; but all above this is a profit, and the more he can increase this balance, the greater his gain. So with a cow; if she does not give a certain quantity, she does not pay for her keeping, and the more such cows a man has, the worse off he is. On the contrary, all above a given yield is clear profit, and the farmer, or the dairyman, has every inducement to increase this amount as high as possible. This matter is one that commends itself to the consideration of every owner of stock, and particularly to the milk and dairyman.

New Publications.

"EUROPEAN AGRICULTURE AND RURAL ECONOMY."

The first number of this work, by Rev. HENRY COLMAN, has just been issued by A. D. Phelps, Boston. It is likewise published simultaneously in London. It is well printed, and is written in the peculiarly interesting and happy style of the author. The present number is in a degree miscellaneous, and can be considered scarcely more than an introduction to the general work, yet it embraces many valuable observations, and we think cannot fail to give satisfaction to its numerous patrons in this country. Among its contents, are chapters on the science of agriculture—English agriculture—English capital—general appearance of the country—hedges and inclosures—iron and sunken fences—the English parks—ornamental shrubs and flowers—climate of England—agricultural population—landlords, rents, and taxes—the farmers—the agricultural laborers—the allotment system.

Of the energy with which agricultural improvement is pursued at this time in England, and of the importance of agriculture, he thus writes:—

"England presents at this time a more brilliant example than any age or country has before witnessed of the application, I will not say of science, for that would not comprehend the idea which I wish to express, but the application of mind to agriculture. The practice of agriculture, and the philosophy of agriculture, are matters of universal interest. Men of all grades and conditions are laboring in this great cause, and are asking for the how, and the why, and the wherefore. The brightest intellects are directing their talents to agricultural inquiries; and the humblest in their humble but not inefficient way, are seconding their efforts. So many minds concentrating their rays upon the same point, they must be sure to illuminate it with an extraordinary brilliancy.

"Agriculture is now getting to be recognized as the commanding interest of the state; so it must ever be as lying at the foundation of all others. Few persons are apprised of their obligations to agriculture; and it is difficult to estimate the extent of these obligations. Every man's daily bread, his meat, his clothing, his shelter, his luxuries, all come from the earth. The foundation, or as the French would say, the *materiel* of all commerce and manufactures, is agriculture; and its moral influences are innumerable and most powerful."

In the chapter on "English capital," Mr. Colman says:

"Another marked distinction, already alluded to, between the condition of the proprietors of the soil here and with us, is in the amount of capital existing here. It is absolutely enormous; and almost distances the system of enumeration which we are taught at our common schools. Let me mention some facts which have been stated to me on credible authority; and let me premise that a pound sterling is about equal to five dollars United States currency. Under a law of the present government, here, levying a tax upon every man's income when it exceeds one hundred and fifty pounds sterling a year, persons liable to taxation are required to make a just return of their income under a heavy penalty. A confectioner, in London, returned, as his annual income, the sum of thirty thousand pounds sterling, or one hundred and fifty thousand dollars, or, six times as much as the salary of the President of the United States; which showed, at least, how skilful he was in compounding some of the sweets of life. A nobleman, it is said, has contracted with a master builder to erect for him, in London, four thousand—not forty—not four hundred—but four thousand houses of a good size for occupation. In some of the best parts of London, acres of land, vast squares, are occupied with large and elegant dwelling houses, paying heavy rents, in long rows, blocks, and crescents, and all belonging to some single individual. One nobleman, whose magnificent estate was left to him by his father, encumbered with a debt of some hundred thousand pounds, by *limiting*, as it is termed here, his own annual expenditure to thirty thousand pounds, has well-nigh extinguished this debt, and, in all human probability, will soon have his patrimonial estate free of encumbrance. The incomes of some of the rich men in the country, amount to twenty, twenty-five, fifty, one hundred thousand, two hundred thousand pounds sterling—even three hundred thousand pounds annually. It is very difficult for New England men even to conceive of such wealth. A farmer in Lincolnshire told me that the crop of wheat grown upon his farm one year was eighteen thousand bushels. The rent annually paid by one farmer in Northumberland, or the Lothians, exceeded seven thousand pounds, or, thirty-five thousand dollars. These facts, which have been stated to me by gentlemen in whose veracity I have entire confidence, and who certainly are incapable of attempting any "tricks upon travellers," show the enormous masses of wealth which are here accumulated."

Speaking of the state of "English agriculture," he says:

"The condition of practical agriculture in Great Britain, as far as I have had an opportunity of observing it, must be pronounced highly improved. Many parts of the country present an order, exactness, and neatness of cultivation greatly to be admired; but a sky is seldom without clouds, and there are parts of England where the appearance is any thing but laudable, and where there are few and very equivocal evidences of skill, industry, or thrift. We are often told in America that England is only a large garden, in which art and skill and labor have smoothed all the rough places, filled up the hollow places, and brought every thing into a beautiful and systematic harmony, and into the highest degree of productiveness. This is not wholly true; indeed, although there are many farms to be altogether admired for the degree of perfection to which their cultivation has been carried, yet there are not a few places where the indications of neglect and indolence and unskilfulness are but too apparent; and where, in an obvious contest for victory between the cultivated plant and the weeds, the latter triumph from their superiority both in force and numbers."

Of the condition of the laboring agricultural class, he says—"The condition of the laboring agricultural class is certainly, in many parts of England, exceedingly depressed; and though in frequent instances it may be called comfortable, in few that I have seen can it be considered prosperous. Their labor is not extraordinarily severe; they are by no means treated with unkindness, or, excepting through the misfortune of the ill-temper of their employer, with severity; they are decently clad, and there is a great amount of active benevolence everywhere at work to assist them, and to alleviate their distress in sickness and misfortune. But they are very poorly fed; with many exceptions, they are wretchedly lodged; their wages are inadequate to their comfortable support—and their situation affords little or no hope of improvement—at least, the power of making it better does not rest, where it should, with themselves."

"I am not at all disposed to quarrel with any of the institutions of this great and enlightened country—great and enlightened as a whole, beyond almost any precedent. I am not disposed, in any offensive form, to profess my own preferences for institutions to which birth and education may have strongly attached me, founded as they are on the great principles of universal liberty as the birthright of every man, and of social equality as conformable to nature, and the only relation in which men can stand to their Creator, or under which they would dare to approach him. But to my mind, it is obvious that no great improvement can take place in the character and condition of the laboring population while they remain a distinct and servile class without any power of rising above their condition. At present the most imaginative and sanguine see no probability of their rising above their condition, of being any thing but laborers, or of belonging to any other than a servile and dependent class. The low state of their wages absolutely forbids the accumulation of any property. They cannot own any of the soil which they cultivate. The houses which they occupy belong not to themselves, and they may at any time be turned out of them. They must ask leave to live, or they must take it by violence or plunder

when they will not be suffered to live. Their only home is the grave, and even their repose here is not always secure."

We forbear to give further extracts at present, as the work deserves to be read in detail to be fully appreciated. The future numbers will embrace remarks on cultivation in general—live stock of every description—the breeding, rearing, and fattening of stock—the dairy—horticulture—rural architecture—agricultural schools and experimental farms—veterinary establishments, &c. &c. The present No. contains 100 pages, octavo, and it is expected the work will embrace 10 numbers of the same size—the price for which is $5. Published for the Author, by A. D. PHELPS, Boston.

The following extract from the Mark-Lane Express, shows the favorable reception which Mr. Colman's work has met in England:

"The readers of the *Farmer's Magazine*, who have already perused the Count de Gourcy's Agricultural Tour, will be forcibly struck with the marked difference of character of the two works, and which, in this very early state of the publication, shows that, whereas the Count was content with giving a pleasant narrative of what he saw—only, as it were, skimming the surface—Mr. Colman will go more profoundly and practically into his subject, and which induces us to augur well of the result. We were prepared to expect that he would treat the subject in rather an English manner; and with the exception of some few remarks, in which, we think, he does not make sufficient allowance for the different state of the social body as a whole, in England, as compared with the United States, we are right well pleased with what we have perused.

"The remarks which he makes on the relative state and position of the several classes of the agricultural body in England are not only interesting, but furnish matter for serious reflection, seeing that they are made in a spirit devoid of that prejudice which but too frequently displays itself in works of a similar character."

REPORT OF THE COMMISSIONER OF PATENTS.

This document of 335 pages, is one of the most valuable that has been issued. The Commissioner, Mr. H. L. ELLSWORTH, is entitled to great credit for his indefatigable zeal and industry in the collection and diffusion of useful facts, which cannot fail to be of great advantage to the country. The dissemination of valuable seeds, is of itself an object of great importance. Of these, Mr. Ellsworth has distributed no less than twelve thousand packages during the past year. He mentions a variety of *rice* now cultivated in high latitudes and even on the edge of the snows of the Himalaya mountains, from which circumstance he concludes there is every reason to believe that upland rice will flourish wherever Indian corn will ripen. Some seed has been ordered for this country, which Mr. E. hopes ere long to have ready for distribution. The *multicole rye* has been considerably diffused in this country, and we shall probably soon know what success has attended its cultivation.

Mr. Ellsworth speaks of the construction of houses of unburnt clay. Several experiments recently made in the United States and Canada, seem to prove the expediency of erecting houses of this description. With a good foundation of stone, there is no doubt of their durability. In Egypt, unburnt bricks have been found in arches, undecayed, that have stood the lapse of 2,000 years. Mr. E. has himself erected one of these houses near the capitol at Washington, which appears as handsome as the best brick houses. It is warm in winter and cool in summer, and where clay is abundant and timber scarce, he does not hesitate to recommend this mode of building.

A process for *preserving wood*, by Dr. Boucherie, of the French Academy, is spoken of, by which it is said, wood has been rendered so hard that the wheel of a rail-road car, leaves no trace after more than a year's use.

A machine for *ditching*, by which, with ten yoke of oxen and five hands, ten miles of ditch, 14 inches deep and 28 inches wide at the top, may be excavated in one day, at an expense not exceeding 3 cents per rod. A larger machine will excavate a ditch three feet deep.

Hosiery is now made in this country with astonishing rapidity, by the aid of the power-weaving loom—an American invention, not yet introduced into England. It is a full day's work to knit by hand two pair of drawers. A girl with the power-loom, will make twenty pairs in a day. A piece 28 inches long and one inch wide, can be knit in one minute.

Hooks and eyes. Thirty years ago the price was $1,50 per gross; now it is only 15 to 20 cents. At one establishment in New Britain, Conn., 80,000 to 100,000 pairs are made per day, and plated by a galvanic battery, or the cold silver process. The value of this article consumed in a year is stated to be $750,000.

Mr. Burden's improved *horse-shoes* are spoken of. At a factory recently erected by Mr. B. at Troy, *fifty tons* of these shoes are turned out per day. They are sold at the price of only five cents per pound, which brings a set of shoes at about twenty-five cents. It is believed that these shoes can be exported to Europe to good profit.

The improvements in the manufacture and making up of leather, have greatly reduced the price of shoes. Those who have not turned their attention to this matter may be surprised to learn that leather made water proof, will last a third longer than other kinds. The annual saving in the cost of this article in the United States, by this improvement, is estimated at not less than $16,000. A very simple composition of rosin, bees-wax, and tallow, applied warm to the soles and uppers, so as to thoroughly saturate the leather, is found very effectual for this purpose.

By the new process of *sugar making*, invented by Prof. Mapes, one establishment in the city of New-York produces from 15,000 to 20,000 pounds of sugar per day from common West India molasses. The sugar is generally superior in quality to that made from the cane in Louisiana. Molasses which has become *sour*, is often used with good effect.

The *electro-magnetic telegraph*, is spoken of as one of the great improvements of the age—one that is destined to exercise a great, and it is believed, a happy effect in the transmission of intelligence from one section of the country to another. Experiments already made in England and on the continent, leave no doubt of its practicability, and this will ere long be further tested on the rail-road route between Washington and Baltimore. The rapidity of communication by this means, is truly astonishing. The rate at which the electro-magnetic fluid passes, according to Mr. Wheatstone, is 288,000 miles, (equal to eleven and a half times around the globe,) in one second! We see the "streak" of lightning in the heavens, but it leaves no trace; the stream is passed in less than a twinkling of an eye, and is gone far beyond our sight. In the same manner, with equal swiftness, the electro-magnetic fluid, unerringly conveys the intelligence entrusted to its operation. The medium employed is simply a copper wire, insulated and extended on posts, at an expense not exceeding $150 per mile. The advantages of this mode of communication must be obvious both in war and peace. The most extreme points of the country can enjoy the earliest intelligence of the markets, and thus be prepared against speculation. Criminals will be deterred from the commission of crimes, under the hope of escape upon the "iron horse," for the mandate of justice, outrunning their flight, will greet their arrival at the first stopping-place.

The experiment of illuminating the streets of Paris with the electric spark, it is said have been quite successful.

The *culture of pumpkins on grass land*, is spoken of as a very advantageous mode. Holes were dug and filled with manure proper for vines, and the seeds planted. The vines did not begin to run till after the grass was mowed for hay. By the time the meadow was wanted for fall pasture, the squashes were ripe, taken from the vines and weighed. From two seeds planted, between six and seven hundred pounds of squashes were produced. It is computed that an acre planted by this mode, allowing about 90 hills to the acre, would produce about 18 tons of pumpkins or squashes.

DOWNING'S WORKS.

"THE FRUITS AND FRUIT TREES OF AMERICA."—This new work of Mr. DOWNING, which has been for some time in press, is announced to appear about the first of this month.

We are glad to see a second edition of his "Landscape Gardening," and "Cottage Residences," has been so soon called for. The first part of "Cottage Residences" has already appeared; and it is announced by the author that Part II. which is in preparation, will contain hints and designs for the *interiors* and furniture of cottages, as well as additional designs for farm buildings.

The second edition of the "Landscape Gardening" will be out in a few weeks, some delay having been caused by the number of very beautiful *new* illustrations introduced into this edition. A considerable portion of the work has been re-written, and many additions and improvements have been made by the author, to render it as complete as possible.

TRANSACTIONS OF THE NEW-YORK STATE AGRICULTURAL SOCIETY FOR 1843.

This volume is just published. It comprises 671 pages. Among the many interesting and valuable articles it contains, is a treatise on Insects injurious to field crops, orchards, gardens, and domestic animals, by the late WILLIS GAYLORD, Esq.—an article on the Diseases and Insects most injurious to the Wheat crop, by JOHN J. THOMAS—Report of experiments in cultivating various kinds of Wheat, by Gen. HARMON of Monroe county—the Geological Survey of New-York, in its influence on the agricultural and other industrial interests of the State, by PROFESSOR HALL, &c. &c. Taken altogether, it is a volume highly creditable to the Society from which it emanates.

"CLATER AND YOUATT'S CATTLE DOCTOR, *with numerous additions by* J. S. SKINNER, *assistant Post-Master-General, &c.* Lea & Blanchard, Philadelphia.

This is one of the best works of the kind that has ever been published, and we do not hesitate to recommend it to every farmer. By consulting its pages he will be able to manage his stock in all cases better than would be done by the ignorant cow-leeches to whom the treatment of the diseases of our domestic animals is generally entrusted. Attention to the diseases of domestic animals is a subject very much, nay, *criminally neglected* in this country. In the language of Mr. Skinner, in the preface to his work, "To say nothing of the duty which common humanity enjoins on every one, to be prepared with common medicines, and directions for the use of them, which may enable him to extend prompt relief to speechless suffering; on the sordid score of self-interest alone, the most calculating, it may be supposed, will not hesitate to provide himself with a book which in teaching him to be his 'own Cattle Doctor,' may enable him to save the life even of the meanest animal on the estate."

To the original work of Clater and Youatt, Mr. Skinner has made extensive additions, and among these is a valuable Essay on the use and management of Oxen, and an interesting paper on Sheep Husbandry; he has also increased the value of the work by numerous illustrations which are not contained in the English work. The vol. (250 p. 12 mo.) is got up in good style, and sold at the low price of 50 cents.

CUTTING WHEAT EARLY.

From our own experience, and from the experiments made by others, particularly the ably conducted ones of Mr. Hannam of England, of which an account has been given in a former volume of the Cultivator, we have been convinced that farmers much more frequently err by allowing their wheat to stand too long before cutting, than by harvesting too early. We have never known an instance where loss was sustained from early cutting, but there is not a year passes in which more or less loss is not suffered by standing too long. Cut early, the berry is whiter, the skin thinner, and the flour better. The following, which we find in the Michigan Farmer, will add to the proofs already given in the Cultivator, that our position is correct. It is part of a letter from Dr Eldridge:

"Amasa Andrews, Esq. of this town, harvested sixty acres of wheat last season, while it was so green and unripe, that every farmer in the neighborhood thought, and did not hesitate to declare him mad. He commenced cutting ten days before any other person thought of beginning, and finished before others had begun. The berry when cut was soft, and in that state known as "being in the milk." He has now threshed it; and being somewhat curious to learn the result of the experiment, I today went, in company with Mr. Andrews to the mill, and examined the wheat. I found it plump, with a peculiar transparency of the berry, I never before saw—which is to be attributed to the very thin coating of the bran. We weighed some and found it weighed just sixty-three lbs. to the measured bushel; and the experienced miller informed me, that it made *more flour* and *less bran* than any wheat he ever saw."

QUICK GERMINATION.

As a general rule, it will be found that a seed planted in such a manner as to ensure a quick germination, and a sufficient supply of nourishment afterwards, will give the most vigorous plants, and the most abundant returns to the cultivator. On this fact depends much of the benefit of manuring, and the difference also which results from the application of manures at different times. No seed requires to be buried deeper than is necessary to ensure moisture, and exclusion from light. If buried so deep that the nutritive matter of the seed is exhausted (and that alone forms the first and most important supply of food) before the shoot reaches the air, or the root the manure intended for its use, life may be continued, but in a state fatal to a good product. The experience of turnep growers, or those who sow small seeds to any extent will show the correctness of the above rules. If the manure is covered so deep that the roots must have a growth of weeks before they reach a proper supply of nourishment, the plants will be feeble, their growth slow, and a check will be given from which the plants rarely recover. If on the contrary the seeds are lightly covered and the manure fine and mixed with the earth in which the seeds are deposited, the growth will be rapid, and the impulse given at first is rarely lost in the growth of the plant. Bone manure has long been celebrated for the rapidity with which it brought forward crops to which it was applied. The fact that it was drilled in with the seeds, and therefore placed in contact with them, or in the position where its influence would be most sensibly felt in giving a rapid and vigorous germination, was for a while overlooked, and virtues were attributed to the substance, that in a great measure belonged to the method of using. The more thoroughly decomposed ordinary manure is, the quicker will its influence be felt on the young plant; and it is found that sown in drills with wheat or turneps, it is not inferior to bone dust in promoting a speedy and vigorous germination. The philosophical experiments of Davy showed that the most benefit would be derived from manures if used in a fresh or long state; and the decomposition of vegetable matters, or the preparation of compost was for a while abandoned, and the manure deposited as recommended by the philosopher. Experience soon showed, however, that while the soil was made better by the use of undecomposed materials, there were some crops to which the theory was not applicable; but that where a quick growth was indispensable, manure in the state that gives immediate nourishment was to be preferred. Thus in Great Britain the use of rotted or compost manure for turneps has again become almost universal; unless in those districts where good management has rendered the soil already so fertile and rich, that the immediate effect of the manure used is not required to the perfection of the crop sown. Farmers, therefore, in the preparation and use of their manures should be governed by the nature and condition of the soil to which it is to be applied; and the plant which it is intended to nourish.

FERMENTATION OF GRAIN.

We have received a communication signed "A. R. D.," asking for some information in regard to the fermentation of grain. He asks—"Will chemistry assist us here?" He then observes, "It seems that the heat is only one of the consequences resulting from chemical action, and is not absorbed *from* the atmosphere as many seem to suppose, because they have observed that it occurs mostly during hot weather. A high temperature is undoubtedly one of those circumstances, under which it goes forward most rapidly, because then the atmosphere will not take up the heat as fast as it is evolved, during the transformation. Under a low temperature the caloric escapes as fast as produced, and the fermentation stops, because one of the circumstances under which it will proceed, is wanting. But is it not going on even then, though but slowly?

"Liebig pronounces the whole process to be a species of combustion, and it is certainly very similar in its operation. In both cases, any substances undergoing combustion or fermentation, will cause other substances of the same nature to pass into the like condition, if brought in contact therewith. The same author tells us, that it is a common *error* to suppose that this operation goes on without any disturbing cause externally. But this must have been with the learned, for common people have thought it altogether produced by external causes, of which the hot weather was the most active. The above celebrated chemist declares that those substances which ferment most readily, remain unchanged as long as the cells or enclosing organs resist the action of the air. But as soon as the envelope gives way, and air is introduced, the juices absorb oxygen and the decomposition commences. First, we have the saccharine fermentation, second, the vinous, then the acetous, and lastly, the putrefactive. The first is necessary in the germination of seeds, and about the same temperature is required to sprout a seed in the earth, as will "heat" the contents of the granary. And thus we see why some farmers are subject to such grievous disappointments with respect to their seed. They thresh out their grain, store it, the saccharine fermentation takes place, and if sufficient moisture were present it would grow; but it is not, and thus the vital principle soon becomes extinct. And so we conclude that kiln-dried grain will not answer the purpose for seed, and that kiln-drying effects its object by expelling the moisture, so that one of the principal conditions of fermentation shall be wanting.

"Now here a question of great interest arises, as to the extent of the injury in each of the successive stages of fermentation, when the grain is intended for manufacturing purposes. If some practical man among your readers would give us the conclusions of his experience and observation, or institute some experiments in relation thereto, and communicate the results, he would perform a most acceptable service. Would the *grain* proceed farther than the first stage of fermentation at all? And would the quality of the flour be then materially injured? But when it is ground and barreled up, would not the vinous and the subsequent stages of transformation follow on, and so destroy the flour; for then that species of fermentation necessary to the preparation of bread would have been anticipated, and bread could not be made.

This disposition to "heat" or ferment, is also allowed to be greater or less in the various grains, according to the proportion of gluten or nitrogenous matter they contain. Can you not therefore, Mr. Editor, for our information, give us a list of analyses of our principal grains, wheat, corn, barley, buckwheat, &c., showing the gluten, starch, &c., of each in their several proportions, so that it can be seen which will be most exposed to fermentation, under the same circumstances of heat, moisture, and the other conditions. Might we not also, justly infer from the above fact, stated by Liebig, that the process would commence sooner in the state of flour, when the hulls and bran are removed, and proceed more rapidly than while it were yet enclosed in the envelope, and less facility given for the air to operate on the fermentative matters."

In conclusion it is asked, whether some cheap practical method could be devised for drying grain, so as to secure it against damage by fermentation? And whether it is supposed that a "few hundred bushels of grain, to the depth of 12 to 18 inches, spread on the floor of a small room, kept up to 100° Fahrenheit, by artificial heat, for several days in succession, would answer the purpose?"

EXPERIMENT IN FEEDING SHEEP.

J. W. CHILDERS, M. P. in a late English publication, has given a detailed account of an experiment made in feeding two lots of sheep, one in a small yard and out shed to protect them from the weather, and the other in the usual manner in the open field. As it is conclusive on the advantages of protection in feeding, we have abridged it for the Cultivator.

On the first of January, Mr. C. took from his flock 40 wether hogs (yearlings) Liecesters, and divided them into two lots, one weighing 183 stone, 3 lbs., and the other 184 stone, 4 lbs., and in other respects there was as little difference as possible. The first lot was put into the yard, the second into the field; and each lot had exactly the same quantity of food given them, which was as follows:

1st. As many turneps as they could eat, which was about 27 stone per day for each lot.

2d. Ten lbs. of linseed cake, or half a lb. per sheep per day.

3d. Half a pint of barley per sheep per day.

4th. A little hay, and a constant supply of salt.

For the first three weeks both lots consumed the same amount of food, but in the fourth week, the lot in the shed eat less by 3 stone of turneps per day, and in the ninth week they fell off 2 stone more. Of linseed cake, there was also a falling off of 3 lbs. per day. The lot in the field consumed the same from first to last.

The result of the experiment was as follows:

20 *Shed Wethers.*	*Increase.*	20 *Field Wethers.*	*Increase.*
Jan. 1st, 183 st. 3 lbs.		184 st. 4 lbs.	
Feb. 1st, 205 st. 0 lbs.	21 st. 11 lbs.	199 st. 8 lbs.	15 st. 4 lbs.
Mar. 1st, 215 st. 10 lbs.	10 st. 10 lbs.	208 st. 2 lbs.	8 st. 8 lbs.
Apr. 1st, 239 st. 9 lbs.	23 st. 13 lbs.	220 st. 12 lbs.	12 st. 10 lbs.
Total increase,	56 st. 6 lbs.		36 st. 8 lbs.

Thus the shed wethers, though consuming one-fifth less food, made above one-third greater progress; and the circumstances of the experiment were on the whole unfavorable to the winners, as the turneps being stored in a house for their use, were more wilted and dry, than those consumed in the field by the other lot. The shed floor was swept each day, and fresh straw given after each shower of rain."

AGRICULTURAL SOCIETIES.

GREAT CATTLE SHOW AT WORCESTER.—The Mass. Society for the Promotion of Agriculture, are to hold a State Cattle Show and Exhibition of Agricultural Implements at Worcester in October next. The trial of plows and other implements, is to be held on the 9th, and the show of stock, &c. on the 10th. The premiums are liberal, but we are sorry to see that those for stock are confined to such animals as shall have taken premiums from County Ag. Societies within the two previous years. Such a restriction in this State would prevent the exhibition of much of our best stock, and we should fear that it would have a similar effect, though in a less degree, in Massachusetts.

COUNTY SOCIETIES IN NEW YORK.—The Rensselaer Co. Society hold their Fair for this year, at Troy, Oct. 2, 3.—The Chatauque Co. hold their's at Jamestown, Sept. 25, 26. Among the premiums to be awarded, we notice are 25 copies of the Cultivator and the same number of the New Genesee Farmer.—The Dutchess Co. Fair is to be held at Washington, Sept. 12, 13, the week previous to the State Fair at Poughkeepsie.

BUCKS CO., PA.—At the meeting of this Society on the 18th April, an Address was delivered by JOSHUA DUNGAN, Esq. an experienced and successful farmer, which is published in the county papers. It is scientific and practical, full of sound suggestions which can hardly fail to have a most beneficial influence.

Foreign Intelligence.

THE WEATHER AND CROPS IN ENGLAND.—The latest accounts represent the weather as generally favorable, and the grain crops promising. In the Highlands of Scotland, the spring was backward, owing to the late continuance of the great quantities of snow which fell in February.

ENGLISH FARMING.—J. J. Mechi Esq. gives, in the English *Farmer's Herald*, an account of his *improvements* on a farm of 130 acres in Essex. The whole improvements, including over *eighty miles* of drains, amounted to the sum of $23,400! The 132 acres cost him $14,400, making the total investment amount to $37,800—or a fraction over $290 per acre, and yet he esteemed this a better investment than to place his funds in the public stocks.

GUANO.—Within a short time, experiments have been made in England with guano found in the Hebrides, and other Scottish islands, and also with the same substance found on the coast of Africa. We have seen no statement showing the comparative value of the Scottish; but in the late English papers we notice the results of various analyses, from which it appears that Peruvian guano contains from 86 to 88 parts in 100 of available matter, and the African 76—or, compared one with the other, as 7 to 8. Comparing cost and value, when delivered in England, however, the African is said to be 23 per cent cheaper than the Peruvian. In England, guano is estimated five times stronger than night-soil, four times stronger than dove-cote manure, "a deadly enemy to the wire-worm and fly, and a preventive of mildew and red rust." We doubt whether experiments in this country have supported this high estimate of its value. Attention is now being directed to the islands in the gulf of St. Lawrence, the coasts of Labrador and Newfoundland, &c., for this substance.

SAWDUST AS MANURE.—The Highland and Agricultural Society of Scotland has lately published a paper on the use of saw-dust as manure. It is highly recommended as litter for byres, cattle-sheds, pig-styes, &c., and answers well both for keeping the animals clean, and for absorbing the urine. We have often used saw-dust for this purpose, and can recommend it as one of the best articles to be had. We have also used, and seen it used, for ameliorating clayey and tenacious soils, with good effect. In some sections this substance may be obtained in abundance, and instead of being wasted as it generally is, it would be found, if used in the manner above mentioned, highly valuable.

LARGE SHEEP.—Two sheep, said to be of the Devon breed, were lately killed at Exeter, (Eng.) one of which weighed 71½, and the other 73 pounds per quarter.

SHORT HORNS.—An eminent stock-breeder from Belgium has lately purchased of Mr. Maynard, and others, near Darlington, fifty head of short-horn bulls and heifers. Nine Durham bulls were lately sold at the Veterinary School of Alfort, in France. The highest price paid was 3000 francs—(about $720,) and the lowest 1280 francs, (about $255.)

PEA-STRAW.—At a lecture of the Rev. Mr. Sidney, at Acle, Norfolk, the Rev. gentleman drew attention to the waste of bean and pea-straw. It was cut too late. He gave the analysis of each as to nitrogen and gluten, which showed that 74 lbs of pea-straw, and probably of bean-straw also, equalled in nutriment 100 lbs. of common hay—a fact most important for farmers here, and well known in Scotland.

LINSEED FOR CALVES.—Boil 1 pint in a gallon of water; you need not soak it in water first. Give your calves from 1 pint to 1 quart of the jelly daily, according to their age. Give 1 pint to horses along with their chaff, &c. twice a day. It will not improve the milk, if given as food to cows.—*Gardener's Chronicle.*

GUANO FROM THE ISLANDS OF THE NORTH SEA.—Experiments are being made in England and Scotland, with the dung of sea-birds, procured from the islands to the north of Scotland. Its effects are not yet known. It can hardly be expected that it will be as powerful as the Guano from the Pacific, because it seldom rains where the latter is procured, and it might reasonably be supposed to possess more strength, than that which had been exposed to soaking rains. But it is yet thought doubtful whether Guano is really the dung of birds.

STALL FEEDING.—Every one will admit the superior value of artificial grasses, who has made a fair trial of the difference between feeding cattle upon them cut green and given within doors, and on the other hand in turning cattle out upon a common pasture. A trial of this kind was once made in Scotland, and it was found that 27 head of cattle were as well kept upon the same quantity of ground in one method, as 18 in the other. Added to this, there is an immense saving in the making of manure, which process, the most important one of any, may be going on during the whole summer, instead of having what dung falls, scattered abroad, and dried up in the heat of the sun.—*Rawstorne's Remarks on Lancashire Farming.*

MANURES are to farming what blood is to the animal frame; divested of their aid vegetation languishes, as the abstraction of the other leads to dissolution. Of all manures that are in use, commend your friends I pray you, to that from the farm-yard. Much goes to waste about every steading, that, being otherwise carefully used, with a trifling amount of labor might be made available in superseding the use of artificial or foreign manures.—*Ayr. Ag.*

POINTS OF A GOOD MILCH COW.—The following is from a report of the Guernsey Agricultural Society. *Points.*—1. Purity of breed and qualities of the dam for yielding rich and yellow butter. 2. Small head, large and bright eyes, small muzzle, small ears, orange-color within. 3. Straight back from the shoulders to the tail, and chest wide. 4. A fine and loose skin, with soft and short hair. 5. Sides well rounded, flank small between the side and haunch, tail fine. 6. Fore legs straight and well proportioned, hind legs broad above the knee, fine and clean below; hoofs small; legs should not cross in walking. 7. Udder large, and the teats large and springing from the four corners of the udder; milk-vein large and well defined.

CHEESE.—A return of the quantities of cheese imported into the several ports of Great Britain in each month of the year 1843, distinguishing the European, United States, and Colonial produce, has been printed on the motion of Mr. Colvile the member for Derbyshire. The aggregate importations from all parts during the year ending January 5, 1844, amounted to 179,389 cwt. From various countries in Europe, there were imported during the year, 136,898 cwt. From the United States of America (whence very rich fine flavored cheeses are now being constantly imported,) 48,312 cwt.; and from the British possessions abroad, only 79 cwt.—*English Farmer's Journal.*

CULTURE OF MILLET.

JUNE is a good time to sow millet. It will do well sown any time in the month. It makes, when well cured, excellent fodder. One of the general advantages of this crop, is, that if the hay-crop is likely to come in light, this may be grown as a substitute. Half a bushel of seed, broadcast to the acre, is a proper quantity, though only a peck is sometimes sown on rich ground. It may, if desired, be sown in drills, and if designed for seed, this is the best way. A common turnep-drill will sow the seed well. It will yield bountifully, and the seed, when ground into meal, is excellent for fattening animals. Rather light ground is best for it—it will indeed do well on land that is too light for grass. In 1841, Mr. G. Jones received a premium from the Tompkins County Agricultural Society, for having raised on two acres, five and a half tons of millet-fodder, and sixty-three bushels of seed. It was new land—the wood and timber from which was taken off in the month of April, and twenty quarts of seed sown to the acre the 8th of June succeeding.

MR. PELL'S FARMING.

We give the following letter from Mr. PELL, with pleasure, and shall be glad to receive the results of the experiments, spoken of in his private note as now in progress, for publication. Notwithstanding the favorable results which Mr. P. thinks he obtained from the use of one bushel of clover seed to the acre, and a bushel of salt to a ton of hay, we cannot but think that a reduction of at least one half these quantities might have been made without a decrease in the product of hay in the one case, and with a decided benefit to his cattle in the other. To compel animals to eat a larger portion of salt than nature requires, cannot but be injurious. While we by no means question the statements of Mr. P. in relation to his experiments, we cannot doubt but that there must have been other favorable circumstances concurring, aside from the use of charcoal, to produce the extraordinary yield of wheat alluded to.

LUTHER TUCKER, ESQ.—In overlooking the May number of the Cultivator this morning, I was surprised to find several communications had been sent you for publication by different individuals, questioning the utility of a few experiments I had tried, found advantageous, and made public, solely that others might be benefitted. "Long Island" attributes my success in wheat culture to the use of lime, and says, "Let the experiment of lime and charcoal be made side by side, and given to the world."

I would refer "Long Island" to an article of mine published in the December number of the Cultivator, page 197. The land which produced at the rate of 78¾ bushels of wheat to the acre, was manured with pulverized charcoal dust, lime not being used in that experiment. By analysis the soil contained gypsum and a little common salt, soluble in water—a very little phosphate of lime, carbonate of lime, and silicate of potash, soluble in muriatic acid. So that further than what was naturally in the soil, no addition of lime was made. This spring on the 23d of April a head of clover fully developed, was plucked near the same piece. Near it, I limed four acres, at the rate of 200 bushels of oyster shell lime to the acre, and the yield was not 25 bushels per acre.

Next in order, page 153, I find Mr. J. Johnston of Geneva, has taken up his "pen to show" that my "opinions are wrong," and some of my "practices are actually cruel." I have pursued the same mode for two years, sowing half a bushel of timothy seed, and one bushel of clover seed to the acre; likewise have cut my grass, housed it on the same day, and salted it with one bushel of fine salt to the ton. In the winters of '43 and '44, I fed 12 head of cattle and three horses on hay so cured, and I flatter myself they would be considered creditable to any farmer, by either Mr. Johnston or Mr. Curtis.

I have within the last two years, tried Mr. Johnston's method of sowing five pounds of clover seed on a small gore of land, and contiguous to it one bushel. From the latter I cut three tons, and from the former one ton of hay to the acre—measured when cured. Mr. Johnston "thinks I am one of those farmers that tell men to do so and so, but who neither helps to do it, nor sees that it is done." I will confess that I do not often help to do the work, but generally see that it is well done.

Page 161, I find a letter signed Daniel S. Curtis, who says, speaking of himself—"My practice is to cure my hay *properly*, and put 2 quarts of fine salt to a ton, taking care to have the lumps well pulverized. Curing hay in the cock is the *only right way*." Mr. Curtis further says—"Ten dollars worth of grass seed to the acre, would look large to farmers that do not usually sow over two." Where I sowed by the old rule 5 pounds to the acre as before mentioned, I cut one ton of hay, worth in this vicinity $12, and in the other instance from a bushel sown, timothy included in both cases, the yield was three tons, worth $36.

In my communication I did not say my plan was the only way, but merely mentioned the fact that others might receive advantage from it, not supposing for a moment that farmers who had never sown more than 5 lbs. to the acre would condemn an experiment before they had tried it themselves.

Mr. Curtis speaks disparagingly of straw, chaff and refuse hay as compost, and as if I strongly recommended it. If he will take the trouble to refer to my letter dated Jan. 21st, '44, on seeding grass lands, &c., he will find I merely say it is supposed by chemists, that the plan of keeping a large stock of horned cattle for the express purpose of manuring a farm, is an erroneous one, on account of the various substances taken from the food to support the animal economy, and ask the simple question,—If, instead of keeping stock for that purpose, the farmer should convert his straw, chaff and refuse hay, into manure in a compost heap, he would not save without the least loss every requisite for the ensuing crop? It is well known that in Virginia and other parts of the country, a great number of cattle are kept expressly for that purpose. Mr. Curtis surmises if I have fed any length of time on hay cured as aforementioned, and not lost my stock, "they must be of a different temperature from his neighbor's cow." I imagine they are of the same temperament and habits as his neighbor's stock, and assure him that for two years their chief food has been hay so preserved, which they have always eaten with apparent satisfaction, and my man says he has never observed that they ever drank an unusual quantum of water. As to quantity of hay cured on my place, year before last and last year I cut the grass from fifty acres, and cured it as aforesaid, and intend intend to continue the same plan, being satisfied that I derive great advantage from it. My cattle are still "punished by the cruel practice," as I pursue the English mode of soiling, and do not permit them to change their fodder, until corn and rye sown broad cast, is fit to cut in turn with clover, to afford a change of diet. I am very respectfully yours, R. L. PELL.

Pelham, Ulster Co., May 17, 1844.

FARM LANDS OF PENNSYLVANIA.

A Pennsylvania correspondent, Mr. P. Peterson, who dates, "Four miles East of Pittsburg," says:

"I will take the liberty of recommending to the Orange County farmers, and to any others, the western part of the State of Pennsylvania, it fitting the very objects which they desire.

1st. The land is cheap and good.

2d. The climate is remarkably healthy.

3d. It is a desirable part of the country.

4th. Schools both private and public are as plenty as bad farmers.

5th. There are churches of every denomination and for 100 miles square will number with any other part of the union.

6th. Farming implements, cows, horses, hogs, oxen, wagons and furniture can be had cheaper than any other place within my knowledge. If you don't believe me, come and see for yourselves.

The land in this section of the country is generally improved, and in consequence of the reverse of times, many farmers and other persons owning lands have become involved, which obliges them in many cases to sell their improved farms, and seek for others further west unimproved and at less prices.

In Washington county, Penn., (which joins lines with the state of Virginia,) the land is of an excellent quality, and generally limestone land, abounding with coal. The price will vary from fifteen to forty dollars per acre, according to the improvements and situation.

In Fayette county the land is generally good, of a black mould and abounds with coal. The price will vary from ten to thirty dollars; building not so good as Washington co. In Westmoreland co. the land is good, but varies very much in quality. Price, $10 to $25.

In Alleghany county, south and west of the Alleghany river, the land is rolling and of a good quality, coal in abundance, and some lime stone. Price varies very much, owing to the necessity of the seller; for a good farm improved, say $20 to $30 per acre. On the north side of the Alleghany river the land is not so good. Can be had for from $3 to $20 per acre, according to the improvements.

In Beaver county the land is rolling, good, and can be had at moderate prices. From $12 to $15 per acre for a pretty good farm, common buildings."

SAXON RAM—*(Copied from Youatt.)*

SHEEP HUSBANDRY.

At the fifth Agricultural Meeting, held in this city, the subject of sheep husbandry was under discussion. We give, from our notes, the remarks of Dr. BEEKMAN of Columbia county, President of the State Ag. Socity.

Dr. BEEKMAN, in reply to the call made upon him by Mr. Nott, proceeded to give his views on sheep husbandry—views deduced from his management of considerable flocks, in connection with other farming, for a series of years. In giving his views on those subjects, said the President, the last speaker commenced by observing that in some things he might be pronounced heterodox; but he has given us a clear and succinct history of his practice, and in most of his remarks I thought him orthodox. His heterodoxy, if I may apply that term to a difference in practice on these matters, may, in my opinion, be found in two or three points. First, he turns his sheep into woody pastures—I mine into open ones; because I had learned that one blade of grass grown in the sun has the nutrition in it of five grown in the shade. Second, he keeps his buck with the sheep during the entire year—I mine only during the month of December; because my experience has taught me that lambs coming in May give the least trouble, and to me are the most profitable. I have endeavored to obtain them at an earlier season; but although I have tried warm sheds and succulent food, success has not induced me to repeat the effort—on the contrary, the practice has been attended with unnecessary expense, and some losses in lambs. But the qualities of our sheep, and of course their constitutions, are different; his are the South-down, which are hardy—mine the Saxon, which are of more tender constitutions. Third, he shears his sheep early—I mine late. And, while on the subject of shearing, permit me to say that is of great importance to the farmer to employ none but the best shearers; for if he does, they will leave twice as much wool on the sheep as will pay for the shearing. I have made several experiments towards ascertaining this fact—both in having some of my own re-sheared, and causing others to do it; and in several instances they have been enabled to obtain, at a second shearing, from four to eight ounces of additional wool.

My sheep, (said Mr. B.,) while running in the pastures in summer, are sorted as to size, sex and condition. I find it an advantage for them to be uniform in all these, and to have the flocks as small as is consistent with their number and the size of the yards and farm. Our farmers will find it much to their profit to keep as many sheep without crowding as their farms can well support. Even the grain farms are much benefitted by this practice, and experience has taught that by this practice they can raise more grain in consequence, as sheep manure is of great service in enriching their farms. This truth has been strikingly illustrated in my neighborhood, where a farmer who was slow to adopt this practice, ultimately became aware of its correctness, and a test of ten years' experience has taught him that upon the same tract of land in that time he has nearly doubled his product, as he has certainly his estate. On a grain farm tolerably adapted to grass, it is perfectly easy to keep one sheep per acre; and upon what is called a grass farm, where the raising of grain is a secondary object, two sheep can be kept per acre. When shelter is provided for them in winter, which ought always to be the case, I find that one hundred sheep, if they are moderately littered, will make forty loads of manure. No quality of it can be finer; and a poor, worn-out clay pasture lot, not too profusely covered with it and summer fallowed, will give, the succeeding season, a good crop of wheat. I find if I put on too much of this kind of manure to the acre, it yields too much straw in proportion to the grain. It is likewise most excellent to renovate old meadows, and as a manure ranks much higher than common barn-yard. The summer run of sheep, likewise, is essentially beneficial to a succeeding crop of grain on a fallow; and no farmer who has in view his own profit and the improvement of his farm, can so easily effect his purpose with any other kind of stock. I have already recommended sheep to be sheltered in winter. I must say that it is not only useful against storms, but against cold and the winds. To guard effectually against these, as soon as the snow falls, I have it thrown up and piled against the side ot the hovels, as high as it can easily be done, as I find it renders the shed much warmer. For sheep in poor condition, warmth in winter is essential; and if they can be entirely sheltered from all the winds, it will prevent much mortality among them. Fat sheep do not feel the cold so sensibly, but all will run for shelter in a storm, if it can be obtained. Another subject as regards sheep husbandry I will touch upon, and that is, watering them in winter when fed on hay. An opinion used formerly to prevail, that sheep did not require to be watered in the winter—that if they could get at snow it would be sufficient. This, I am satisfied by the best of all possible authorities (experience,) is wrong. They require it twice a day, as regularly as any other animal. I will relate this fact. I confined about one hundred wethers in a lot, where they were to be kept for the winter; they had shelter and hay for food, but could not obtain water, except as it fell in rains. I noticed, after being so confined a few weeks, that they lessened in flesh. In a week's time more I

again visited them, and saw that they were gradually growing thinner. I ordered a better quality of hay, although the first was at least of ordinary quality. I spoke to my shepherd about it, and he took from the flock a few of the poorest, and had them brought to the barn, where they could be both fed and watered; these gave him no more trouble, but it still did not occur to me that the main flock were suffering from want of water, as there was abundance of snow. Another person, who saw them shortly after this, happened to make the suggestion that it might be want of water that was the cause of the mischief. I at once took up the thought, and directed that an opening be made to the brook, whence they could be daily watered. It was so done, and I could in a few weeks' time observe that the flock had improved, and for that winter I had no more trouble with them. Since then I have had the fact repeatedly brought to my notice by others, and no truth can ever be more satisfactorily established. I make these few remarks in relation to a part of my practice in sheep husbandry. It is a subject sufficiently extensive to admit much more being said upon it; but, for the present, I forbear, as I do not wish to occupy too much time. I will only further say, that there is a common remark when a foolish act is done by an individual, that he is as "silly as a sheep." My observation of the habits of sheep has induced me to believe that they have powers beyond instinct, and have more intelligence than they are usually credited with. Dr. B. continued his remarks on several other points, and explained satisfactorily his process of farming for the improvement of his lands, while thus rearing a flock which now amounts to eight hundred sheep.

WHEAT CULTURE IN THE SOUTHERN COUNTIES.

At the third Ag. Meeting held in this city, under the auspices of the State Ag. Society, DR. LEE, of Erie Co., said:

Mr. President: The question for investigation this evening, I believe to be this: "Is it practicable, and if so, will it be profitable, to grow wheat south of the limestone strata that extend west to lake Erie, through the central portion of this State?"

The soil in the region alluded to, is based on shale and free-stone rocks, and lacking lime, its sulphates and phosphates, it is but poorly adapted to wheat culture.

Practically then, the question to be solved is this: How much lime, sulphur and phosphorus must be added to the shale and free-stone soils in the southern tier of counties, to make them good wheat lands, and what will be the expense per acre?

If we take 100 lbs. of ripe wheat, including root, stem and head, and burn it in the open air, about 97 per cent of its weight will be converted into vapor and gas, and escape into the atmosphere. The ash, or 3 per cent left, will, on analysis, show the earthy elements necessary to produce this grain. Liebig and Johnston both quote the following analysis, made by Sprengel, as entitled to confidence:

	Wheat Ash.
Potash,	0.6
Soda,	0.8
Lime,	6.8
Magnesia,	0.9
Silica (flint,)	81.6
Alumina, and oxide of iron,	2.6
Phosphoric acid,	4.8
Sulphuric "	1.0
Chlorine,	0.9—100.00

When it is recollected that there is never more than three or four per cent of the above earthy substances in wheat, and that silica (sand) composes 81.6 per cent of even that small portion, it will not I trust, be deemed incredible, if I express the opinion that by the aid of a little practical science, good wheat may be grown profitably in any county in the state.

This plant has been raised in a great variety of artificial soils, where each ingredient was carefully weighed, both before and after the plant was taken from the earth. By careful analysis, what the soil had lost, and what the plant had gained, was susceptible of damonstration. A very large portion of the elements of all cultivated plants comes from the atmosphere. The precise amount depending alike on the composition of the soil and the nature of the particular plant upon which the experiment was made.

I regard it as a fact of great practical importance that wood ashes, even leached ashes, so abundant in the southern tier of counties, contain all the earthy elements of this invaluable bread-bearing plant. Compare the following table, showing the constituents of beech ash, with that of wheat ash. This is also taken from Sprengel:

	Beech Ash.
Silica (sand,)	5.52
Alumina (basis of clay,)	2.33
Oxide of iron,	3.77
" manganese,	3.85
Lime,	25.00
Potash,	22.11
Soda,	3.32
Sulphuric acid,	7.65
Phosphoric "	5.62
Chlorine,	1.84
Carbonic acid,	14.00—100.00

Maple, birch and other wood, contain the same minerals.

Note the 25 per cent of lime in the above analysis, being larger than that of potash. Our primitive forests have been for centuries drawing the above earthy constituents of wheat from the soil. And instead of carefully preserving this indispensable *raw material* of good wheaten bread, thousands of bushels of leached ashes have been thrown away! Being but slowly decomposed by the vital action of plants, ashes are an enduring fertilizer when compared with stable manure. Mixed with quick lime, their good effects are more speedily obtained. Lime will render alumina either in the soil or in leached ashes, soluble in water, so that it can enter the minute pores of roots. Clay in the soil is always combined with a large portion of silica, and before it has been exhausted by continuous cropping, it holds in combination considerable potash and soda. Lime, by combining with alumina, the basis of clay, liberates these alkalies and silica, which uniting chemically, form soluble silicates of potash and soda. These also enter into the circulating nourishment of plants, and are decomposed in the stems of grasses and cereals. The silica goes to make vegetable bone, to keep the plant upright, while the potash and soda go back to the earth to dissolve as before, another portion of *sand*, to be also absorbed, and transformed into *bone*. It is in this way that a few ashes applied to a sandy soil, will enable grass and grain to take up the 81 per cent of flint found in their ashes. Lime will do the same thing on clay soils, for the simple reason that they generally do not lack potash, soda and magnesia.

The quantity of lime and ashes to be applied to an acre, will depend entirely on their cost at the place where they are to be used. A few bushels will be of essential service; but a larger dose will be better.

I come now to speak of the organic elements of the wheat plant, which as I have already intimated, form ninety-six or seven per cent of its substance. Water and its constituents, oxygen and hydrogen, carbon and nitrogen, are the four elementary ingredients of all cultivated plants, beside their minerals. As there is no lack of water or of its elements, oxygen and hydrogen, our attention will be confined to obtaining a full supply of carbon and nitrogen. These are indispensable, and fortunately nature has provided an amount of carbon and nitrogen in the air, if not in the soil, more than equal to all the wants of vegetation. A large portion of the fertilizing elements of vegetable mold in a rich soil is carbon, and a small portion is nitrogen; both of which are usually combined with other substances. These important elements are often nearly exhausted in fields which have been unwisely cultivated; and I have paid much attention to the subject of cheap and practicable renovation.

By the aid of clover and buckwheat dressed with gypsum, ashes, lime or manure, and plowed in when in blossom, much can be done in the way of augmenting the

rich vegetable mold so desirable to a certain degree in all soils. Straw, corn-stalks, leaves of forest trees, and swamp-muck made into compost with lime and ashes, are of great value. Charcoal well pulverized, and saturated with urine, I regard as the cheapest and most useful fertilizer that can be applied to a poor soil, for the production of wheat or almost any other crop.

The earths contained in charcoal, as the analysis of its ash demonstrates, are identical with the earths found in the wheat plant. Coal contains a very large portion of carbon, and will imbibe from the atmosphere a large quantity of nitrogen in the form of ammonia and its carbonates. Unlike stable manure, the salts of lime, potash, soda and magnesia, it will not waste by premature solution nor by evaporation. On the contrary, it is of incalculable value to mix with the liquid and solid excretions of all animals, to absorb and fix in a tangible condition those volatile, fertilizing elements, which are so prone to escape beyond our reach.

When it is recollected that without nitrogen in some form, it is utterly impossible to grow one kernel of good wheat, and that a pint of human urine or four quarts of that of the cow, or one quart of that of the horse fed on grain, contain nitrogen enough to supply 60 lbs. of wheat, we may begin to understand something of the money value of this animal product. But mind this suggestion. Nothing is sooner lost than the hartshorn in an open smelling-bottle, or a large share of the ammonia in free urine in a warm atmosphere. Charcoal and gypsum will absorb it in large quantities, and give it out to the roots of plants as their wants require. In feeding plants, great judgment should be exercised. At least one-half of the food fed out to them in the shape of stable and barn-yard manure, is entirely lost. It escapes into the air, or is dissolved prematurely, and carried like the potash in water running through a leach, beyond the reach of your hungry if not starving plants.

I have just separated a half pound of wheat flour into its proximate elements of starch and gluten. The gluten I have in my hand. It is nearly identical with animal muscle. It forms from 7 to 35 per cent of the bulk of wheat kernels. The more gluten flour contains, the more good bread a given number of pounds will make. A barrel of flour rich in gluten, will make 10 per cent more of bread than one which is nearly all starch. Gluten will bear far more water than starch. The quantity of this meat-forming principle in wheat, depends in a good degree on the quantity of nitrogen in the soil where the wheat is grown.

Prof. EMMONS made some interesting experiments, illustrative of soils. He also exhibited some beautiful specimens of the separation of starch and gluten in kernels of wheat and corn; and also of the phosphates in the latter grain.

FARMING IN NOVA SCOTIA.

To SOLON ROBINSON—Sir—I have just finished reading your letter in the March number of the Cultivator; and although it is addressed to your friend Richmond, of Staten Island, I have perused it with much interest and pleasure, and the impulse is so strong that I cannot resist writing a few lines to you, through the same medium.

No doubt you have heard of a place upon the face of the earth, called Nova Scotia, "away down east, beyond the State of Maine," in lat. 44 north, long. 63, west from Greenwich. Well sir, the person who now addresses you, lives (some would say, stays,) in said Province, and is a farmer too. What! a Southerner would exclaim, farm it in Nova Scotia? Yes, sir, we farm it here, or rather attempt it; but since I became familiar with agricultural journals, especially the Albany Cultivator, and perused the communications of practical farmers, I find we are in the "rear" of agricultural science and information; of course there are exceptions.

It would be impossible in a letter, to be published in an agricultural journal, to go into the details of our system of farming. Suffice it to say, our winters are long, and sometimes very severe; our summers are short and warm; and the only recompense the farmer has for the above disadvantages of climate, is a long and favorable autumn, for fall plowing, making compost heaps, &c. as yet too generally neglected.

Our soil is very productive, when properly managed, and consists of stiff loam, sandy loam, sand and gravel, with intermediate grades; besides intervale and dyked marsh; the former (intervale) resembling perhaps, your prairie ground; the latter (dyke) superior, I suppose, to any land yet discovered; for it will produce hay, wheat and oats in abundance, year after year, without manure, or any renovating substance whatever, or at least it has done so for nearly one hundred years, and I think it is as fruitful as ever. There are large quantities of it in the midland and farming counties, and after the expense of excluding the tide or sea—in some instances a heavy expense—it sells from forty to one hundred and thirty dollars per acre; and at the higher rate will pay not less than ten per cent interest on the amount invested. The upland can be procured at from one to eighty dollars, depending upon their location, wild or cultivated state. Our houses are built of wood, and are from one to two stories, neat, and generally comfortable; although we have plenty of stone and material for making brick. The extent of the farms varies from 100 to 500 acres.

The principal crops are potatoes, (every body knows Nova Scotia potatoes to be good,) wheat, rye, oats, hay, &c.; garden vegetables are grown, but at present, limited to a few. We have fruits, consisting of apples, both native and imported varieties, (and I have just been eating some raised in my orchard, as sound as the day they were pulled, and if Millerism be not true, I expect to have them in August,) pears, peaches, (I have eaten as good ones from the garden of the Hon. C. Prescott, Cornwallis, as ever I eat in New-Jersey,) plums, cherries, &c.; so you see, although I live in Nova Scotia, I can with knowledge and industry, enjoy good vegetables and fruits, &c. &c.

Our native cattle are inferior, but they have been improved from time to time, and are now undergoing a great improvement by the importation of the Durham breed from England, also horses, as well as swine. We have now the Berkshire breed among us, pure and direct from England. You will observe we are not destitute of the materials for a good and profitable system of farming, provided science, skill and good management, had their legitimate and proper influence among us. Better things, I trust are in store for the future—and possessed of a government both mild and potent, and free from all taxation except to support the poor, &c., amounting per annum to not over 25 cts. upon every $400 worth of property. A few such men as Garnett, Buel, Dana, Robinson, and others, would in a few years make of the midland counties of Nova Scotia a garden. For the last ten years we have been rent to pieces by political demagogues, but as the old saying is, "every dog has his day," their plans of self-aggrandizement have been frustrated by the nobleman at the head of our affairs, and they are now meeting their just reward, viz. degradation.

Within a few years, the "emigration Illinois Fever" has prevailed, and a number of families have sold their farms and left Kings county, (the very best agricultural county in Nova Scotia,) for your State, and others adjoining—hoping "to obtain their daily bread by less sweat of their brows." I have always had my doubts whether they would better their condition (especially those at the middle age of life and in good circumstances) by moving thither. From the tenor of your letter, I should say they would not. I should like to have some further statements from you through the medium of the Cultivator *or otherwise*, relative to the cost of land, amount of all land and other taxes, amount of grain, potatoes, oats, rye, &c. raised per acre, profits per acre of different crops, *durability of the prairie grounds for cultivation*, state of morals, religion, schools &c.—price of salt, iron and such like articles. Hoping you will excuse the liberty of thus addressing you, believe me to be,

Yours respectfully, OLD NOVA.

Kings county, Nova Scotia, April 1, 1844.

No man can *borrow* himself out of debt; if he gets free of it at all, *honorably*, it must be by industry and frugality.

PHOSPHATE OF LIME.

To the late Geologists of the State of New-York:

The subscriber read the Geological Reports as they appeared annually, and was astonished, and at the same time delighted, with the mass of information they contained. The mineral riches of the State, and the heretofore concealed treasures brought to light by your researches, are great beyond measure. They give promise of future benefit to the country, the development of our resources, and the increase of commerce, the arts and agriculture. The subscriber being a cultivator of the soil, is only interested in the latter, which he thinks may be assisted and improved by your labors. The knowledge of these, however, must be known to be appreciated, and the volumes containing the result of your researches, should be diffused through the community that has contributed to the expense. If the Legislature should dispose of the volumes of printed reports by selling or giving them away, the valuable mass of information they contain, would be sooner spread before the public, and the sooner would that public reap the advantages to be derived from your scientific labors. I am departing however, from the object in view in commencing this article.

In reading your reports (which are not now at hand,) I recollect it is noticed that in several counties of this State, Apatite, Phosphorite or the Phosphate of lime was discovered in more than one district, but the quantity or accessibility is not stated. Late agricultural writers speak of the value and importance of the phosphates as fertilizers of an exhausted soil. Now I would respectfully inquire if those phosphates you discovered were in any considerable quantity, and if they were so accessible as to be easily obtained for agricultural purposes? My reasons for making this request, will be seen in reading the following extracts from Liebig's "Familiar Letters on Chemistry," &c. lately published in New-York city.

In the 16th letter he observes—"My recent researches into the constituent ingredients of our cultivated fields, have led me to the conclusion that of all the elements furnished to plants by the soil and ministering to their nourishment, the phosphate of lime, or rather the phosphates generally, must be regarded as the most important."

"In order to furnish you with a clear idea of the importance of the phosphates, it may be sufficient to remind you of the fact, that the blood of man and animals, beside common salt, always contains alkaline and earthy phosphates. If we burn blood and examine the ashes which remain, we find certain parts of them soluble in water, and others insoluble. The soluble parts are common salt and alkaline phosphates; the insoluble consist of phosphate of lime, phosphate of magnesia, and oxide of iron."—p. 173.

Again he says: "It is a most curious fact, that if we incinerate grain or its flour, peas, beans and lentils, we obtain ashes, which are distinguished from the ashes of all other parts of vegetables by the absence of *alkaline carbonates*. The ashes of these seeds, when recently prepared, do not effervesce with acids; their soluble ingredients consist solely of alkaline phosphates, the insoluble parts of phosphate of lime, phosphate of magnesia and oxide of iron; consequently, of the very same salts which are contained in blood, and which are absolutely indispensible to its formation. We are thus brought to the further indisputable conclusion that no seed suitable to become food for man and animals can be formed in any plant without the presence and co-operation of the phosphates. A field in which phosphate of lime or the alkaline phosphates form no part of the soil, is totally incapable of producing grain, peas or beans."—p. 174.

"In a former letter I showed you how great a waste of phosphates is unavoidable in England, and referred to the well known fact that the importation of bones restored in a most admirable manner the fertility of the fields exhausted from this cause."

"Another proof of the efficacy of the phosphates in restoring fertility to exhausted land, is afforded by the use of the *guano*—a manure, which, although of recent introduction into England, has found such general and extensive application."—p. 176.

Liebig further advises us that "If a rich and cheap source of phosphate of lime and the alkaline phosphates were open to England, there can be no question that the importation of foreign grain might be altogether dispensed with after a short time."—p. 177.

The value of the phosphates is also acknowledged by Johnston in his "Lectures on Agricultural Chemistry and Geology." In the first volume of the edition lately published in New-York by Wiley & Putnam, when speaking of phosphoric acid, he says, (p. 274,) "It unites however, with potash, soda, lime, &c. to form compounds known by the name of *phosphates*. In these states of combination, it is almost universally diffused throughout nature, and appears to be essentially necessary to the healthy growth and maturity of all living—certainly of all cultivated vegetables."

Again, when speaking of the earth of bones, and the several forms of the phosphate of lime, he observes (p. 293, vol. 1,) that "In some parts of the world a hard mineral substance, commonly known by the name of Apatite, occurs in considerable quantity. It consists chiefly of a phosphate of lime, which differs but slightly in its constitution, from the earth of bones—containing 54½ per cent of lime; while the latter contains only 51½ per cent. The composition of this mineral would lead us to expect it to possess a favorable action upon vegetation, and this anticipation has been confirmed by some experiments made with it by Sprengel."

"It occurs occasionally in mineral veins, especially such as are found in the granitic and slate rocks. Masses of it are met with in Cumberland, in Cornwall, in Finland, in the iron mines of Arendahl in Norway, and in many other localities. A variety of it, distinguished by the name of *phosphorite*, is said to form beds at Schlackenwalde in Bohemia, and in the province of Estremadura in Spain. From the last of these localities being the most accessible, the time may come when the high price of bones may induce our enterprising merchants to import it, for the purpose of being employed in a finely powdered state as a fertilizer of the land."—(Lect. 9th.)

The first American edition of Johnston contained but nine lectures, and was published in New-York while they were in the progress of delivery. This second edition contains eighteen lectures, and in the fifteenth, when speaking of bone earth, (vol. 2, p. 71,) it is observed, "Burned bones were formerly employed in England, but the practice has gradually fallen into disuse, and the same is the case in Germany. This is no proof, however, that the native phosphate of Estremadura—already, it is said, imported into Ireland for agricultural purposes—would not benefit many soils if applied in the state of a sufficiently fine powder."

These opinions and facts are laid before the readers of the Cultivator, and will demonstrate in this instance how agriculture may be advanced by the sciences of geology and mineralogy; and the late geologists are respectfully requested to collect from their several reports, and give a summary of the localities of the phosphate of lime and their quantities, &c. to be published in the Cultivator. The subscriber, as one of the tax-payers of the State, is pleased and well satisfied with their labors, tenders them his thanks and best wishes for their welfare.

He could not but smile at the scruples of his old friend Judge Scott of New-York, one of the State Senators, in returning to the care of the Secretary of State, a copy of the Geological Reports, which was appropriated to him as a member of the Legislature. The plunder of the public (a portion of the "spoils" of victory,) was so small in this case, that if he had retained it, given it to some public institution, or deposited it in some library, where it could be read; in neither case would it have diminished his vote at the next election, should he again be a candidate, and certainly it would not have changed the vote of his former associate in a benevolent institution.

A PRACTICAL FARMER

Staten Island, March 25, 1844.

Mr. J. R. Barbour, a great silk authority, says that the valley of the Ohio has gone ahead of New England in the production of raw silk. He thinks that the West and South will take the lead in the growth of silk.

THE OLIVE.

MESSRS. EDITORS—Dr. Olin, describing the soil and productions of Palestine, speaks thus of the olive:

"But this is the proper region for the olive and the vine. Anciently, these hills were covered with orchards of fruit trees and vineyards, and the world does not, probably, produce finer grapes, figs and olives, than are annually gathered about Hebron and Bethlehem. One acre of the flinty surface of the Mount of Olives, carefully tended in olive trees, would yield more, through the exchanges of commerce, towards human subsistence, than a much larger tract of the richest Ohio bottom tilled in corn. Most persons know little of the variety and importance of the uses to which the fruit of the olive is applied in the Eastern nations and in some of the southern countries of Europe. Large quantities of the berries are used by the inhabitants, and exported as food; but the principal value of the olive consists in the delicious oil that is extracted from its fruit. This is used upon the table and in cookery, as the substitute for both butter and lard. It is universally burned in lamps, and instead of candles, which are nearly unknown in the east. It is the principal material used in making soap."—*Olin's Travels, Vol. II. p.* 430.

Mr. Jefferson, in 1787, wrote as follows:

"The olive is a tree the least known in America, and yet the most worthy of being known. Of all the gifts of Heaven to man, it is next to the most precious, if it be not the most precious. Perhaps it may claim a preference even to bread, because there is such an infinitude of vegetables which it renders a proper and comfortable nourishment. In passing the Alps, at the Col de Tende, where there are mere masses of rock, wherever there happens to be a little soil, there are a number of olive trees, and a village supported by them. Take away these trees, and the same ground in corn, would not support a single family. A pound of oil, which can be bought for three or four pence sterling, is equivalent to many pounds of flesh, by the quantity of vegetables it will prepare and render fit and comfortable food. Without this tree, the country of Provence and the territory of Genoa would not support one-half, perhaps not one-third, their present inhabitants. The nature of the soil is of little consequence, if it be dry."

"In Italy, I am told, they have trees of two hundred years old. They afford an easy and constant employment through the year, and require so little nourishment, that if the soil be fit for any other production, it may be cultivated among the olive trees without injuring them."

"Notwithstanding the great quantities of oil made in France, they have not enough for their own consumption, and therefore import from other countries. This is an article, the consumption of which will always keep pace with its production. Raise it, and it begets its own demand. Cover the southern states with it, and every man will become a consumer of oil, within whose reach it can be brought, in point of price. If the memory of those persons is held in great respect in South Carolina, who introduced there the culture of rice, a plant which sows life and death with almost equal hand, what obligations would be due to him who should introduce the olive tree, and set the example of its culture!"—*Mr. Jefferson's letter to Thomas Drayton, dated Paris, July* 30, 1787.

"I am persuaded there are many parts of our lower country where the olive tree might be raised, which is assuredly the richest gift of Heaven. I can scarcely except bread. I see this tree supporting thousands among the Alps, where there is not soil enough to make bread for a single family."—*Mr. Jefferson's letter to Mr. Wythe, dated Paris, Sept.* 16, 1787.

Here is surely ample testimony as to the estimation in which the olive was held in modern times, by those acquainted with its uses. If evidence is wanting as to the estimation in which the ancients held it, we have only to refer to the frequent mention made of it in the historical parts of the Bible, and the beautiful allusions to it so frequent by the Hebrew poets—to the beautiful fictions among the Greeks about its origin, one of which is mentioned by *Apollodorus Atheniensis*, who tells us how, in the reign of Cecrops, Neptune, smiting the earth with his trident, made the sea flow at his feet; how Minerva, determined to outdo his marine godship in beneficence, called on Cecrops to bear witness to what she was going to do, and made an olive tree spring from the ground; how these divinities quarreled about the value of their respective gifts to Attica, and Jupiter, to settle it, appointed twelve gods to determine the question, which august jury of divinities gave a verdict in favor of Minerva; and to the rank assigned to it by Columella among the Romans, as being the first among trees. Yet in the whole of the United States, I know of but two or three instances, in which attempts have been made to introduce the culture of this tree. Long ago, indeed, the colony of Greeks settled at New Smyrna, in E. Florida had planted the olive, and only sixty years ago there were large trees marking the site of that settlement. Recently, Mr. Cooper of St. Simons, and Mr. Spalding, of Sapelo, Georgia, have tried its cultivation, I think, with success; and in the garden of Mr. Rose at Macon, I saw recently a flourishing tree which had thus far withstood the winters there. I suppose the general impression that it would not endure, without injury, the cold of our winters, has deterred cultivators from turning their attention to it; as it is known that the severe winter of 1807 destroyed a large part of the olive trees in the south of France; and as it is known too, that Humboldt, in his essay on the geographical distribution of plants had set down the olive as requiring a climate with a mean temperature of 57 deg. 17 m. the greatest cold being 41 deg. 5 m. Mr. Jefferson, however, says that when killed by frost, it will spring up again from the roots; so also says Mr. Hillhouse; and such is the experience of Mr. Spalding and Mr. Cooper. If the varieties cultivated in France were the only ones to be had, even their comparative tenderness ought not to be an objection to attempting their cultivation here. For all experience shows, and philosophy teaches, that plants of temperate climates, in time, by frequent reproduction from seed, adapt themselves to colder climates, in which, at first, they invariably perished. The Melia Azedarach furnishes a familiar illustration of this fact; and applying to the well known characteristics of the olive tree, the first and second of the laws of temperature, with respect to its influence on vegetation, as laid down by M. De Candolle, we may confidently conclude therefrom that it will adapt itself to our climate even sooner than the Melia.

Happily, however, there are varieties to which this objection cannot be made. "In the southern part of the Crimea, which lies between the latitude of 44 deg. and 46 deg. two varieties of olives have been discovered, which have existed there for centuries. They yield great crops and resist the frost."

"These olives have been cultivated in the Royal Imperial Garden of Nikita, to preserve and multiply the species, with plants which had been received from Provence, and have endured the rigorous winters of 1825 and 1826, while those of Provence, in the same exposure, perished even to the root. Measures have been recently taken in France for the introduction into that country of these two precious varieties, *which are capable of resisting ten or twelve degrees of cold below the zero of Reaumur's thermometer—equal to five degrees above the zero of Fahrenheit.*"—*Kenrick's Amer. Orchardist, 3d ed. p.* 333.

The nurserymen of the United States incur great expenses in introducing such exotics as the Cedar of Lebanon, Garoga elyptica, Paulownia imperialis, Pinus deodara, &c. &c.:—all of which are very beautiful trees; but when they are said to be very beautiful and very rare, all is said of them that can be, with truth, except that they are very expensive. It is true that purchasers are found who are willing to pay high prices for them; and in this, those who import them, find their remuneration. By incurring an expense, not more, it is believed, than has been incurred in the introduction of any one of the exotics above named, the olive of Nikita may be introduced. And if it stand the rigor of our climate, as it does that of its native region, may we not hope to see it, in a few years, spreading over the southern States, adding to the comforts and the wealth of our people? Once introduced, its propagation is a matter so very simple, that

it may be easily disseminated to any extent in a very short time. Such men as Dr. Cloud of Alabama, Dr. Phillips and Mr. Affleck of Miss., I would suppose would not rest until they secured the introduction of the olive into their States, respectively. Mr. Affleck, especially, will surely not consider Ingleside complete, until an olive grove shall have been added to his establishment.

Dampier and Lord Anson, the former as far back as 1688, had described the Bread Fruit, as a most invaluable production of the Ladrone Islands. In 1787, persons in London, interested in the West India Islands, prevailed on the King of Great Britain to order a ship to be fitted out at the expense of the nation, for the purpose of introducing the Bread Fruit as an article of food, into the West India Islands. The first voyage, under Lieut. Bligh, was a failure. But the object was ultimately accomplished. The result, from some cause or other, did not answer the expectations of those who had taken an interest in it; yet they never regretted having made the effort, nor the charge made by it on the public treasury. Is it not a matter of higher importance to the southern States of our confederacy that the Nikita olive should be procured at the public expense? Look over the list of seeds and plants brought home by the Exploring Expedition—estimate the whole at the highest value that can properly be set upon them, and all together, so far as real utility is concerned, they are not equal to the value of the Nikita olive. Yet how they are cherished—with what care and expense they are preserved! The government of Great Britain incurs heavy expenses to introduce the Bread Fruit into the West India Islands; the government of France takes measures to introduce the Nikita olive into that country. Shall our government, established in all its branches, on principles of utility, and professing to be regulated in all its movements, exclusively by these principles, lag behind the old and decaying monarchies of Europe in enterprises like these? Shall it be said that in our republic, its exploring expeditions, undertaken professedly for the public good, shall belie the character of all our institutions, by preferring, in their collections, articles of show to those of utility?

Athens, Ga., March 10, 1844. JAS. CAMAK.

IMPROVEMENT OF FARM STOCK.

MESSRS. EDITORS—The improvement of farm stock can hardly be too frequently brought before the mind of the agriculturist, and of all who feel any interest in the prosperity of the country. No individual of any observation, whose attention has been drawn to this subject, and who has had an opportunity of critically examining the quality and character of the stock reared by a vast majority of farmers, can fail to be forcibly impressed with its importance to the nation, as a permanent, certain, and reliable means of largely increasing the aggregate wealth and resources of the whole country.

It is believed that this subject may appropriately engage the attention of the merchant, the manufacturer, the statesman and the patriot, as well as the farmer, when it is considered that agriculture is the foundation and the main source of national wealth, as it puts in motion, and imparts life and energy to all other branches of national industry. Let the agricultural products of the country fail for a single year, and what effect would it produce on all other interests? The ships of the merchant would be found moored and decaying at his wharf; the manufactories would cease to operate; our noble canals would then indeed become a "*solitary wilderness,*" and every branch of industry would become paralyzed.

If then, such vast interests are so intimately connected with a well regulated, intelligent and prosperous husbandry, it may well be inquired whether improvement in farm stock, which is one of the principal items of the farmer's wealth, is not important, and intimately connected with the general interests and prosperity of the country? More particularly is it so to the farmer, and improvement must principally depend on his well directed and persevering exertions. Each farmer should put the question directly to himself—"Have I, in my possession neat cattle which possess the greatest combination of excellence, which are the most profitable for the dairy, which will mature early, and when no longer wanted for dairy purposes, will put on flesh with the least expense in feeding for the butcher? Have I the best sheep for fleece and carcass—the best breed of swine, those of quick growth and approved fattening qualities?" And if, on investigation, he becomes satisfied he is deficient in one or all of this description of animals, his own interest should at once stimulate him to spare no pains to procure such, no matter if it be at extra exertion, and a reasonable additional expense; for what is an outlay of a few hundred dollars compared with the accumulated profits one may reasonably expect to derive in the period of a few years. Besides, there are other considerations of great interest that should not be lost sight of. It is well known that a great proportion of the labor and expense of the farmer is bestowed upon his grain and root crops; and when those are well secured, it becomes a matter of interest to decide how they shall be disposed of to the most profit. Perhaps a great proportion of farmers decide on feeding them to their stock to fatten them for their own consumption and for the butcher. If stock can be raised, which will consume one-third or one-quarter *less* food than the ordinary or unimproved stock of the country, how important is it he should rear such stock?

This is no ordinary subject; and there can scarcely be any just reason why it should not as deeply interest the agriculturists and arouse them to action, as does the improvement of our home fabrics interest and engage the attention, zeal and persevering energies of the manufacturers. Why do those who are engaged in this branch of industry devote so much time and means in perfecting labor-saving machines? Why so much solicitude in regard to a discriminating protective tariff, and why do they invoke the aid and influence of the agriculturist, whenever there is a proposition to modify the tariff in the slightest degree, and why is an appeal made to sustain this interest through pamphlets, hand-bills, and in the columns of almost every newspaper in the country, calling upon all classes to sustain this interest? It is simply because they have the discernment to see that their interests are involved in this question, and that their prosperity is in jeopardy. This is a right spirit, when so restrained and directed as not to infringe upon or injure other equally important interests. Now until something like the same spirit which so extensively pervades the minds of those who are engaged in manufacturing, is infused into the minds of the practical agriculturists, improvement in farm stock will be of slow growth, and no permanent beneficial results can reasonably be expected. The agriculturists of England understood well their true interests in this branch of husbandry, and they have extensively encouraged the breeding of superior stock, and for the last fifty years or more, have by unwearied attention and perseverance brought up their stock to a point of perfection which is unrivalled by that of any other country, and which has largely contributed to swell the wealth of that nation. This improvement has increased their commerce; their stock has attracted the attention of other countries, and exportations to a considerable extent are annually made, and at high prices. The writer of this article recently wrote to a distinguished breeder of England to be informed what he would charge for one of his best Durham heifers to be shipped this spring, and he replied that his price for one about two years old, would be two hundred, and for another one about three years old, would be three hundred guineas. This fact is stated merely to show the value they put upon improved stock.

There have been imported into this country a variety of the very best improved breeds of animals from England, at considerable risk and expense, to propogate and to improve our native stock. Thus a foundation has been laid, which if duly appreciated by those most deeply interested, very favorable results may justly be expected. Who has attended our State and County fairs for three years past, and has not had his admiration excited by the fine display of the noble Durhams, Herefords and Devon cattle, as well as the fine sheep and swine which have graced their exhibitions and done so much honor to their owners. This stock has justly elicited the approval of the several viewing committees appointed as judges, and

they have very properly awarded them the highest premiums of the several societies; and it is exceedingly to be regretted that the matter should rest here. If the owners of those improved breeds of animals should have one or more which they could dispose of, to those whose interest it is to purchase them, if any offer is made for them it would hardly be sufficient to pay the freight on a single animal across the Atlantic. Is this a right spirit? Will such apathy and disregard of interest, on a subject which is so intimately connected with the great agricultural interests, promote improvement, or will it not produce a decidedly contrary effect, and discourage those who now take an interest in the subject, and who are willing to devote some time and their resources, to carry forward improvement? It is to be hoped that a better spirit will soon prevail, and that that attention will be given to the subject, which from its importance it is justly entitled to. The fair of the New-York State Agricultural Society is to be held at Poughkeepsie in September. The location selected for it is a good one, and affords great facilities for transporting stock. The premiums offered on stock are of sufficient magnitude to induce owners of good stock to exhibit it, and doubtless there will be a display of fine improved animals which will far surpass that of any other exhibition which has ever occurred in this country. The concourse of people which will there assemble, will doubtless be very great, not only from this but from other States, and if a right spirit is evinced by those whose interest it is to possess good stock, a new impulse will be given to this branch of husbandry which may in a few years produce great improvement, and eventually raise the quality of our stock to a point of perfection equal to that of England. These thoughts are thrown out in the hope that the subject may engage the attention of others previous to the fair in September. C.

Rensselaer County, April 25, 1844.

SOUR SOILS.

It seems to be a matter as well settled in the minds of some men, as if it were actually demonstrated, that certain uncombined *acids* exist in some soils, rendering them what are termed "sour." From whatever this has taken its rise, it is so deeply rooted, that it is questionable if any evidence will be sufficient to convince them of the error, so long as they falsely think, that it is reasoning against the evidence of their senses. One source, and perhaps the chief one from which this idea has sprung, is the benefit arising from the application of alkalies and alkaline earths. But this is too much like framing a theory, and compelling facts to support it. The little knowledge which every one possesses of chemistry, teaches him that the effect of an acid upon an alkali is to produce a salt—a compound of a mild and inactive kind, in comparison with the elements that go to form it. That great benefits do arise from the application of such substances to some soils, cannot be denied. But is it in this way? Is it because free acids exist in the soil which are injurious to vegetation, and whose effects are destroyed by uniting them with an alkali? I think not. Let us examine it a moment.

What acid or acids are found by actual analysis in a free state in the soil? I do not ask for the quantity, but simply for the presence of them. It cannot be carbonic, for this, every one knows, is an essential part of the food of plants; and in the amount in which it is commonly found, instead of being prejudicial to plants, is an actual source of life and vigor. Look at the analysis of soils given by the most correct analysts. We find, it is true, that *inorganic* acids (sulphuric and phosphoric and muriatic,) are present in variable quantities in almost all soils. But what of that? Do we not find also the alkalies, (potash, soda, lime and magnesia,) and the oxides of iron and manganese, as invariably present. True, we are not told in so many words, that they are combined with the acids. But can we suppose that these substances will exist by the side of each other, in circumstances the most favorable for union, and yet remain uncombined? By no means. The moment they come in contact, they unite and form salts, and in this form they are found. I am authorized to say that the examination of the soils from various parts of this State, made by Dr. Emmons, confirm these views.

Are the *organic* acids formed? It is granted on all hands, that these are all formed by the living and growing plant, and depend upon the plant in which they are formed for their peculiar character. The oxalic acid of the sorrel, tartaric of the grape, citric of the lemon and malic of the apple, and a host of others, may be formed by these plants, growing in the same soil. They depend upon the organs of the plant for their existence. Now are these ever found free in the soil. "We have no reason to believe that a plant in a condition of free and unimpeded growth, produces more of its peculiar acids than it requires for its own existence," (Liebig,) and he also says that all of them are "in combination with bases."

During the process of germination, a seed gives off acetic acid to the soil. Does it remain there uncombined? If so, we have no account of it. If seeds are caused to germinate in powdered chalk or carbonate of lime, after a time *acetate of lime* may be washed out from the chalk. (Bracconnet.) And it is possible that the acid is sent out for this very purpose, to dissolve the lime and return with it into the circulation of the plant. At all events, it is always found in the soil, combined with lime.

Oxalic acid is not known to exist in the soil, or in the water which reaches the roots of plants. So says Johnston, and yet the production of sorrel is by many supposed to depend upon the sourness of the soil. But observation proves that if this is the case, lime, the ordinarily recommended remedy, will not so neutralize the acid as to prevent its growth, even applied in immense quantities. Besides, as we hinted above, if the acid must unite with the alkali in order to prepare it to enter the plant, the result ought to be, that this weed should thrive all the better for the application of lime. But this acid has never been found in the soil.

Some physiologists attribute to the roots not only the power of absorbing food, but also of excreting those matters which are taken up with the food and are not necessary for the growth or life of the plant. Among the experiments instituted to determine this point, I find but one in which there was any evidence of an acid excretion. When the ground upon which the poppy had been grown was washed, a considerable quantity of acetic acid was found, but *in the form of acetate of lime.*

Do we ever find free acids in the water of springs or of wells? I believe that in no instance is this the case, although they always contain some salts. Yet this water is all filtered through the soil, and if free acids of any kind which are soluble, exist there, they must certainly be washed out. There is an apparent exception to this, but it is only apparent. We refer to carbonic and sulphuric acid, as they are found in some springs, and as they are produced beneath some soils in overwhelming quantities, so as to destroy all vegetable life. The presence of this acid depends upon some local cause for which there can be no remedy.

I have said nothing thus far of humic acid, which is known to abound in soils chiefly composed of decayed vegetable matter. And I have not referred to it for this reason, that it is utterly insoluble, and therefore can have no injurious effect upon vegetation. It does not affect my theory in the least, for I am only speaking of soils which contain free acids which are thus prejudicial, and which must of course be soluble. If it is assumed that soils abounding in this acid are *from this cause,* prejudicial, I shall still stand upon the same ground. But this cannot be assumed. These soils are unproductive, not because they contain this acid, for it is generally admitted to be itself a great source of nourishment for plants, under the proper circumstances, (being also connected as it is with all the elements of plants,) but because the acid is insoluble, and cannot in this state be conveyed into the mouths of plants.

I know of no evidence of the existence of any acid, organic or inorganic, in its uncombined state in any soil; and till I do, I shall remain as ignorant as I have ever been of what is meant by a "sour soil." This question has nothing to do with the action of alkalies. But the cause of their benefit must be looked for in something else than their power of neutralizing free acids. A. J. P

PRODUCE OF A VERMONT FARM.

MESSRS. EDITORS—I herewith transmit to you a statement of the products of my farm for 1843. I keep Dr. and Cr. and know at the end of the year how much nett profit or loss I sustain in my operations. I have not taken into the account the support of my family consisting of six individuals, but have offset that against the interest on the capital invested. Mine is a clay and muck farm of one hundred and thirty acres, lying on the banks of lake Champlain, with only ten acres of wood upon it; the rest being under improvement. I cannot boast of any great crops, it being my first year of cropping; consequently I have not got my land prepared for large crops of grain, but intend to practice a thorough system of rotation for the purpose of obtaining large yields per acre. I will give the gross amount of each crop, together with the price it brought, and also the expense I have been at in carrying on the farm:

Wheat,.....	100 bush.	at	$1,25	$125,00
Rye, ...	168	"	50	84,00
Peas, ...	71	"	50	35,50
Oats,.....	250	"	30	90,00
Corn, ...	20	"	50	10,00
Buckwheat,.....	26	"	50	13,00
Potatoes,.....	200	"	25	50,00
Hay, ...	50 tons	at,..	6,00	300,00
6 steers sold,.....			25,00 each	150,00
Wool, 100 lbs.,.....			28	28,00
				$885,50
I paid for labor, seed, &c, ...				252,00
Leaving a balance in my favor, of				$633,50

In addition to the above, I kept on the farm two span of horses, eight head of cattle and fifty sheep, and have wintered them thus far *on the straw and coarse fodder*, and no cattle in this vicinity look so well as mine. I have also in the above estimate for labor, included the putting in of twenty-three acres of winter wheat and rye, now on the ground, and it looks extremely well this spring. I am in hopes the present year, of doubling the above amount, if the season is favorable. Yours truly,

Chimney Point, Vt., March, 1844. D. C. GOODALE.

"KNOWLEDGE IS POWER."

Never was this motto more signally illustrated than in the advantages derived by intelligent farmers from the aid of science. Even a slight acquaintance with chemistry and geology, is productive of profit for the pocket, as well as pleasure for the mind. "You may be somewhat surprised to find me farming on the hard soil of Connecticut, instead of teaching mathematics in a ship of war," said a worthy friend who lately visited Albany. "I am somewhat surprised myself, at the transition," continued my friend; "but the truth is, that when leaving the ship on a visit homeward, I bought a copy of Liebig's newly published book about Agricultural Chemistry, for the purpose of reading on my journey; and so much was I instructed and entertained, that I determined to take hold of the old farm once more, and endeavor to practice on the doctrines taught by that scientific German. I have done so for a couple of years; and the result more than realizes my expectations. By economy in increasing the quantity and improving the quality of manures, and by applying more manure and better cultivation, our corn crop is more than doubled—aye, almost trebled; our potato crop is much improved in quality, and greatly in quantity; and our meadows produce hay enough to leave a handsome surplus, where formerly the cattle we now keep would have found rather '*short commons*.' But the greatest improvement in reference to the cattle and meadows, results from adopting the plan which I saw mentioned in the Cultivator, as pursued by Josiah Quincy of Boston. The old stone fences running through our farm, were a nuisance in my sight—forming ready *harbors* for noxious vermin and weeds, besides occupying considerable ground. I determined to follow the Quincy fashion, (and those Quincies have many good traits about them,) by soiling our cattle, and thus rendering division fences needless. I thus keep the cattle in better order on the products of much less land, and save additional quantities of manure that would alone pay me for all the trouble I have in housing the animals. By underdraining, I have reclaimed considerable marshy land, making it now productive; and the peat-bog of twelve acres, formerly a mere nuisance, is now one of the most valuable parts of our farm—furnishing us with abundant material to throw into our hog-pen and cow-yard, for forming compost in connexion with an occasional sprinkling of lime to promote decomposition. I should not forget that even the weeds with which the old farm was infested, are now made tributary to the improved mode of cultivation; for, cut frequently, (as all weeds should be cut till they are exterminated,) they form material for additional manure, when drawn by me into the hog-pen or cow-house for litter. It is satisfactory to find that many in our neighborhood, who at first smiled incredulously at my notions of *book-farming*, (and also some well-meaning doubters, who are always slow of faith,) are now satisfied there is something in it less ridiculous than they formerly supposed. So, with this brief account of myself, since you last met me on board the line-of-battle-ship, do you wonder that I have now returned with increased interest to the old farm, where I learnt to plow in the same fields that were cultivated by my ancestors from the early settlement of Connecticut?"

As one of the multiplying evidences of the beneficial results of agricultural publications, as an example worthy of imitation by many of our farmers, young and old, the foregoing sketch is at your service—in the hope that young men who are inclined to abandon farming in the hope of better fortune otherwise, will at least "READ, REFLECT AND JUDGE," before they abandon their farms, however "worn out" or unprofitable those farms may have been. Farmers who practice on such doctrines, have little need of crossing the Rocky Mountains in search of lands in Oregon. RHO.

PRESERVATION OF CORN FROM FROST.

Mr. S. N. HAWES, of Shoreham, Vt., relates a remarkable case of the exemption of a piece of corn from frost, which he thinks is to be attributed to the plentiful use of long barn-yard manure, in connexion with the stalks of a crop of corn which had grown on the ground the year before—the whole having been plowed into the soil. He says:—

"I plowed deep, strewing the old crop of stalks in the furrows and covering the whole entire. I had a rank and extra growth of a large kind, which required a longer time to mature; and some of the last days of August or first of September, the earliest ears had commenced hardening, when we had one of the severest frosts I ever witnessed at that season of the year. I had much anxiety respecting my corn crop, which I visited early in the morning; but the crackling of the frozen grass at every footstep, prepared my mind to behold it in ruins. Yet determined to know the worst, I pressed on, mounted the fence, which surrounded it, and to my surprise, not a particle of frost was visible upon it! I looked around upon every side; all bore a wintry aspect. I looked again upon the crop before me; it bore the appearance of having been wet by a gentle but profuse shower. I sprang over the fence, determined to pass through it; but ere I had reached half a dozen rods, was glad to retreat, and before I could effect it, was completely drenched. I again remounted the fence where I could take a view of every side; it was alike surrounded by a heavy frost.

"As I stood pondering upon the apparent phenomenon, the fact flashed upon my mind, that the process of decomposition from the extra quantity of long manure, particularly the old crop of stalks, was still going on to that degree that the heat completely counteracted the action of the frost. Near the middle of the day (which was extremely warm and clear,) I traveled a mile in length, visiting every field on the same level with my own, and all without distinction were entirely destroyed. Mine remained uninjured, and yielded an abundant crop of remarkable sound, ripe corn."

PLOWS.

MESSRS. EDITORS—I observed in your last number, a notice and plate of "The Boston Centre Draught Plow," Prouty & Mear's self-sharpening patent, with new *gearing*. The advantages said to be secured by this new gearing, seem important. Where very deep plowing is required, the fastening extending down from the back of the standard, may interfere with the operation of the plow. This may be obviated, however, by adding to the height of both the plow and beam. The attaching of the wheel to the side of the beam, though doubtless an advantage when turning the last or dead furrow of a *land*, is counterbalanced by the fact, that this new mode of securing it, will not give it so much permanency and strength as the other, which admits of fastening on both sides of the beam; and hence, will be more liable to get out ot order. These conclusions are not the result of any experience with the plow, but are formed simply by seeing the excellent plate referred to in the number.

There are many good plows in this country, and this Instrument has been the subject of great improvement during the present century. But it is somewhat a matter of astonishment to observe how *sectional* a thing a plow is, and what a pertinacity of opinion is exhibited in reference to its qualities, so many claimed to be the best kinds. Perhaps it would be no difficult matter to find a score of patents in the hands of as many different farmers, all believed to be the best existing. And indeed there is some ground for this partiality and difference of opinion. Different soils require differently constructed plows. Of this, I have seen abundant proof, but I by no means lean to the opinion that all the variety of existing patents are equally good, and each best adapted to some peculiar location. I rejoice to see improvements in implements of husbandry, and trust that all useful ones will prove as profitable to the inventors, as they are beneficial to the community of agriculturists.

Prouty & Mear's plow is a self-sharpener, and judging from the plate, the point and share are two separate pieces of cast iron, which may be reversed. On the farm to which I am attached, Cornelius Bergen's patent plow No. 10, constructed on this principle, has been used for perhaps twenty years. I believe Mr. Bergen is entitled to all the credit of this improvement, as well as having on account of the peculiar form of the mold-board, produced the lightest draught plow ever tested by an instrument. I think the records of the American Institute will bear me out in this remark. This reversal of the share and turning of the point when worn on the lower side causes the *sct* to be downwards again, and may be repeated until the point is worn to a short *stump*, and has the same effect as a new share, on plows where the point and share are cast in the same piece of iron. Hence it is a matter of considerable economy, for it must be evident to every plowman that the share is usually cast aside because the point is worn up from below, and not because it has become dull. If it could be turned, it would answer for much additional wear.

Mr. Bergen's plow is the best for green sward plowing I have ever seen in use, especially if the sod is old and tough. The form of its mold-board, and general shape, is such as to meet with comparatively little resistance in its passage through the ground, while at the same time it admits of taking a broad furrow or slice, and turns it over to the best advantage. Thus much for its general adaptedness. But I have said that the same plow is not the best for every kind of soil. Land in which the mold-board will readily scour or brighten, will admit of the very acute angular plow; while soil that contains little or no grit, and where the ground constantly adheres to the board, requires a greater angle for the mold-board so as to increase the friction. I am aware that there are soils which will constantly adhere to the plow, no matter how well scoured and brightened before put in use. There must be a limit to this increase of angle, beyond which it cannot be safe to go. Every farmer should obtain a plow that will clear itself in its performance, when the nature of the soil will admit of it, for a clodded mold-board neither performs well or draws easily.

A plow that performs best in sod, will not always be found the best for mellow ground. Plows therefore of different construction are frequently very desirable on the same farm, though there may be a uniformity of soil—one (the acute angle like Bergen's,) to secure lightness of draught, where in a heavy sod, lightness is required for the benefit of the team—the other for loose ground where a plow similarly constructed, sometimes fails to force over the furrow to a sufficient distance. Now it follows, if these remarks in reference to the soil and state of the ground be correct, as connected with plowing, and they are the result of some experience, then no one patent should bear the palm over all others, and for all purposes.

I will add, Messrs. Editors, that I have no interest either directly or indirectly in the sale of plows of any patents, but would recommend for ordinary soils, Mr. Bergen's patent. Its advantages are lightness of draft, strength, economy in the cost of sharpening, and the capacity of performing the best work in green sward. I might add durability, for the friction being easy, the mold-board will wear well, while all the advantages of the improvements of the wheel and the new gearing attached to the centre draught plow, is alike applicable to this, as well as other patents. Many of the peculiarities of Mr. Bergen's genius as exhibited in his plow, have been incorporated in other patents; some have adopted the form of his mold-board, others the length of the iron which travels through the ground, and gives steadiness to the operations of the plow, while another has added the self-sharpening principle, though the ideas may be original to the inventors of the different patents.

Brooklyn, N. Y., May 10, 1844. J. G. B.

SHEEP INJURED BY CLOVER.

MESSRS. EDITORS—In reading the "Prize Essay on the preparation and use of manures," published in the last September number of your valuable paper, I noticed under the head of green crops, it is recommended as a means of enriching the land, "to let the clover grow until nearly or quite in blossom and then turn sheep upon it."

This method would no doubt answer very well for the land, but I think would not be as beneficial to the sheep; the reasons for which opinion, may be found in the following statement of facts.

On the 9th day of June, 1836, immediately after washing, I turned a flock of about one hundred ewes with their lambs, into a field of about twelve acres of clover, (common red,) as the season was favorable, the clover was very fine, and was in the state recommended in the Essay, just coming fully into blossom; the sheep remained in the field until the 20th, when 19 of them died, as I believe from the effects of clover pasture. The first symptom of disease shown by them was reeling and staggering backwards for a little while, after which they lay insensible until they died, which happened with the greater number in an hour or two. There were twenty-five taken with the disease, of which number six recovered.

I of course removed the sheep from the field, and saw no more of the disorder. I then made strict search throughout the field to discover anything poisonous, but could find nothing except two very small stools of elder that should not be there. I found, however, that the grass on the strips of old sward along the fences, and also on a small corner of the field that had not been disturbed by the plow, was gnawed down to the ground.

The sheep also showed their dislike to the clover, by twice breaking out of the field over a good ordinary fence, which was a very unusual thing for them to do.

These sheep were of a mixed breed of Saxon and Merino, in fine thrift, being the choice of my breeding ewes. I made a *post mortem* examination of two of the carcases, and found no unusual appearance, except that the paunch seemed very red and inflamed. There was no distention as in bloat.

GYPSUM—INQUIRY.—Will you, or some of your numerous correspondents who are competent, inform the readers of your paper, of the comparative merits of the different kinds of gypsum as manure. I know some far

mers who prefer the French plaster to the Nova Scotia; and I have heard it said that that of our own State was much better than either. If this be true, it seems to be very poor policy to import from abroad an article which may be obtained better at home.

Respectfully yours, PIERRE V. C. MILLER.

Shawangunk, Ulster Co., March 18, 1844.

PHILOSOPHY OF WOOL—No. V.

I have briefly treated thus far of the several valuable properties of wool; valuable, however, only as each contributes its part in the process of manufacture, and all secondary or subordinate, yet in a measure essential to, the felting power.

The phenomena of *felting* long remained enshrouded in mystery. This gave rise to numerous speculations as to the primary cause or causes, many of which, although plausible at the time of their publicity, now that the true cause has been discovered, appear sufficiently ridiculous. But the keen sagacity of man at length mastered the subject by surmising the correct theory, without the means, however, to demonstrate it, for want of microscopes of adequate power. To M. Monge, the distinguished French chemist, are we indebted for the first correct view of the structure of the fibre, which, from its peculiarity, mainly depends the felting principle. He asserted "that the surface of each fibre of wool is formed of lamellæ, or little plates which cover each other from the root to the point, pretty much in the same manner as the scales of a fish cover that animal from the head to the tail, or like rows placed over one another, as is observed in the structure of horns;" and he accounts for the felting process in the following way:

"In making a felt which is to constitute the body of a hat, the workman presses the mass with his hands, moving them backwards and forwards in various directions. This pressure brings the hairs or fibres against each other, and multiplies their points of contact. The agitation gives to each hair a progressive motion towards the root; but the roots are disposed in different directions—in every direction; and the lamellæ of one hair will fix themselves on those of another hair, which happens to be directed a contrary way, and the hairs become twisted together, and the mass assumes the compact form which it was the aim of the workman to produce. If the wool is in cloth and subjected to the process of fulling, the fibres which compose one of the threads, whether of the warp or woof, assume a progressive movement; they introduce themselves among those of the threads nearest to them, and thus by degrees all the threads become felted together, the cloth is shortened in all its dimensions, and partakes both of the nature of cloth and of felt." No language can be employed which will convey a more correct and vivid impression of the process of felting, than the foregoing.

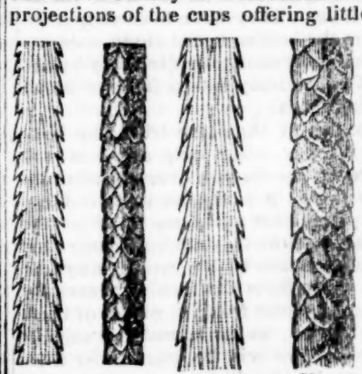
Through the indomitable perseverance of Mr. Youatt, the author of a valuable, though too diffuse, treatise on British sheep-husbandry, Monge's theory was finally demonstrated, although he was often frustrated, and almost yielded to despair, from the imperfections of his instruments. The construction at last of a superior achromatic microscope by Mr. Powell, of London, enabled him to realize his ardent wishes; and his own description of the scene, and the conclusions to which he arrived, are of too much interest to admit of any abbreviation.

"On the evening of the 7th of Feb. 1835, Mr. Thomas Plint, woolen manufacturer, resident at Leeds; Mr. Symonds, clothing agent, of London, Mr. F. Millington, surgeon, of London, Mr. Edward Brady, veterinary surgeon, Mr. Powell, the maker of the microscope, and the author himself, were assembled in his parlor. The instrument was, in Mr. Powell's opinion, the best he had constructed. A fibre was taken from a Merino fleece of three year's growth; the animal was bred by, and belonged to Lord Western. It was taken without selection, and placed on the frame to be examined as a transparent object. A power of 300 (linear) was used, and the lamp was of the common flat-wicked kind. The focus was readily found; there was no trouble in the adjustment of the microscope; and after Mr. Powell, Mr. Plint had the first perfect occular demonstration of the irregularities in the surface of the wool, the palpable proof of the cause of the most valuable of its properties —its disposition to felt.

"The fibre thus looked at, assumed a flattened ribband-like form. It was of a pearly grey color, darker towards the centre, and with faint lines across it. The edges were evidently hooked, or more properly serrated—they resembled the teeth of a fine saw. These were somewhat irregular in different parts of the field of view, both as to size and number. The area of the field was now ascertained; it was one-fortieth of an inch in diameter. By means of the micrometer we divided this into four, and we then counted the number of serrations in each division. Three of us counted all four divisions, for there was a difference in some of them. The number was set down privately, and it was found that we had all estimated it at fifteen in each division. Having multiplied this by four, to obtain the whole field, and that by forty, the proportionate part of an inch of which the field consisted, we obtained a result which could not be disputed, that there were 2,400 serrations in the space of an inch, and all of which projected in the same direction, viz. from the root to the point. Then, before we quitted the examination of the fibre as a transparent object, we endeavored to ascertain its actual character, and proved it to 1-750th of an inch.

"We next endeavored to explore the cause of this serrated appearance, and the nature of the irregularities on the surface, which might possibly account for the production of these tooth-like projections; we therefore took another fibre, and mounted it as an opaque object. There was considerable difficulty in throwing the light advantageously on the fibre, so small a space only as 1-30th of an inch intervening between the lens and the object. At length Mr. Powell perfectly succeeded; and we were presented with a beautiful glittering column, with lines of division across it, in number and distance seemingly corresponding with the serrations that we had observed in the other fibre that had been viewed as a transparent object. It was not at once that the eye could adapt itself to the brilliancy of the object; but by degrees these divisions developed themselves, and could be accurately traced. These were not so marked as the inverted cones which the bat's wool presented, but they were distinct enough; and the apex of the superior one, yet comparatively little diminished in bulk, was received into the excavated base of the one immediately beneath, while the edge of this base formed into a cup-like shape, projected, and had a serrated, or indented edge, bearing no indistinct resemblance to the ancient crown. All these projecting indented edges pointed in a direction from root to point.

"Whether these, like the cones of the bat, are joints, or at least points of comparative weakness, and thus accounting for the pliancy and softness of the fibre, or regulating the degree in which these qualities exist, may perhaps be better determined by and by; one thing, however, is sufficiently plain, that these serrated edges in the transparent object produced (when the fibre was resolved into its true form as an opaque one) by the projecting edges of the cups or hollowed bases of the inverted cones, afford the most satisfactory solution of the felting principle that can be given or desired. The fibres can move readily in a direction from root to point, the projections of the cups offering little or no impediment, but when they have been once involved in a mass, and a mass that has been pressed powerfully together, as in some part of the manufactory of all felting wool, the retraction of the fibre must be difficult, and in most cases impossible."



No. 1. No. 2. No. 3. No. 4.

The annexed cuts exhibit microscopic views of fibres of wool from picklock

samples of Merino and South Down fleeces. The relative difference of serrations can not be conveniently delineated in a plate; a marked difference, however, will be observed in the construction of the lamelæ or serrations.—No. 1. A fibre of Merino wool as a transparent object; No. 2. The same, as opaque; No. 3. A fibre of South Down wool, transparent; No. 4. The same, opaque.

The pressing engagements of the writer at this busy period of the year, will preclude the pleasure it would otherwise afford him to continue the discussion of this interesting subject. L. A. MORRELL.

BEES.

EDITOR OF THE CULTIVATOR—I give here a few questions which if answered through the medium of your paper, will be of essential benefit to many in this vicinity.

By what means can the common board bee-hive be rendered safe against the bee-moth?

If the common hive cannot be made safe, what kind of hive can?

What is the best method of making a bee-hive or house to prevent bees from swarming?

I have tried almost every method to keep the worms from the common hive, such as raising it on nails, sprinkling salt around it, &c. &c. I have also used some of the patent-hives, but entirely without success. I have heard that when a hive is very large, by keeping the bees without swarming, the moth rarely enters it. Is it so?

Fishkill, May 1, 1844. A. B. C.

We think it would be difficult, if not impracticable, to make the "common board hive proof against the bee-moth." A great many kinds of hives have been constructed to guard against the ravages of this destructive insect. A few of them have been more or less useful, but by far the greater portion have been of no benefit whatever. The moth is an insidious enemy, and makes his attack on the hive in such a way that it is not easy to defeat him, and when he has once obtained a lodgment within the hive, it is almost impossible to get him out. The "inclined plane" has been adopted in many cases for the bottom of the hive, under the supposition that the bees would somehow get the worms from their hiding places and drop them on to this board, from which they would roll off to the ground. We are satisfied from critical observation that the number of worms got out of the hive in this way is comparatively trifling. The worm works under the protection of a web, which secures it from their fangs of the bees as effectually as if it were clad in a coat of mail. If the bees undertake to get him out, the feet and fangs soon become clogged with the fibres of the web, and they give up their labors in despair. When the worms have reached their full size and are about to pass into the pupa or chrysalis state, they sometimes crawl about considerably, their object being, apparently, to find a suitable place in which to spin their cocoons and undergo transformation. At this time they are fully exposed to the attacks of the bee, who sometimes seizes and drags them out of the hive. But even then they evince an extraordinary sagacity in finding their way back. When thrown by the bee from the edge of the hive or the inclined plane, they have been frequently observed to be attached to the board by a small web, by which they would directly wind themselves up again to the hive. They have been seen to do this when thrown from the bottom board three successive times, and were then effectually expelled only by the bees carrying them off so suddenly and so far as to break the web before dropping them.

Like many other insects of the same tribe, the bee-moth lies still during the day, and is only active at twilight. Hence, a wire screen thrown over the entrance to the hive during the night, or while the moth is busy, is a good protection. By a little attention, many of the moths may be killed at the time they are hovering round the hive in the evening. Some of the worms may also be caught at the time when they are seeking places for transformation, by placing little troughs, pieces of bark, or elder quills, split in two, so as to make a suitable shelter for them. The worms will be found under them in the morning, and may be killed.

The best defence against the moth, is to guard as much as possible the entrance to the hive. It is much easier to keep an enemy out of a fortress, than it is to expel him when he has once gained possession. In this case, the bees become tired of a continued opposition to the moth, and finding that he has obtained a secure footing, leave him almost unmolested.

The hive should be made of good seasoned stuff, that will not warp, and be put together as closely as possible. There should be no cracks or crevices, for these are sure to afford harbor for the moth. The entrance should be no larger than is really necessary to afford space enough for the bees to pass. The smaller the entrance, the more easily and effectually may it be guarded against intruders.

H. A. Pitts, of Winthrop, Me., has invented a simple contrivance for keeping the moth out of the hive, for which he has obtained a patent. It consists of a series of false bottoms, or slides, attached to the under part of the hive. These slides project out in front of the hive, having spaces of a quarter or a third of an inch between them. A small drawer is made in the back part of the false bottom, or in the rear of the slide, into which some honey-comb is placed. The moth is thus induced to deposit its eggs there. The drawer and slides may be pulled out and the worms destroyed as often as necessary without at all incommoding the bees. The contrivance costs but a trifle, and may be attached to any hive. Where it has had a fair trial, it has been well liked, and is a great protection against the moth. It should be observed that the entrance to the hive is screened by a thin cleat, cut out on the under side so that the bees can pass into the hive, and nailed across over the entrance. This prevents the moth from readily discovering the entrance to the hive, while the spaces between the slides and the drawer, furnish just such a habitation as they desire.

As to the best kind of a house to keep bees from swarming, we remark that there have been many such invented—some of them, under the name of "*palaces*" costing from thirty to forty dollars each. We know not which is "best." For ourselves, we should not be in favor of any of them. It is more natural for bees to swarm, and they will increase much faster, and make more honey in proportion to their number, by being allowed to do so, than if prevented from swarming. As to these *palaces* preventing the moth, we have seen none that appeared likely to do so—on the contrary, their construction is generally so complicated as to afford the moth a very secure harbor, and we have seen many where the moth had succeeded in gaining full possession of the hive, and had nearly exterminated the bees.

WHITE DAISY.

MESSRS. EDITORS—In the summer of 1837, we observed for the first time in a field of ten acres, about five completely covered with the White Daisy; so much so that no domestic animal which we raise, would graze among them, or even look for grass where the daisies grew. They were mowed off that summer, but apparently to no purpose. The next spring, as soon as grass had started, we turned about one hundred and twenty wethers and yearling lambs into that field and kept them there as long as there was any thing green to be seen, when they were driven out until the daisies and grass had started up, when they were put back, and the daisies again eaten off. We continued to change them in and out of that field throughout the summer—our object being to keep the ground where the daisies grew as bare as sheep could be made to gnaw it. The end of this is, that there has not been a daisy there since.

We would recommend to those readers of the Cultivator who are troubled with the daisy, to use their sheep, (if they have any,) not only for the comfort of themselves and families, but for labor-saving animals also. They should be confined to the daisy on its first appearance in the spring, and so many of them as to eat all clean in two weeks or less, when they may be changed into another field, till such time as the daisy again springs up. We have never known or heard of daisies being destroyed in this way before. If you think this worth knowing, please publish it. FRANK FARMER.

The Garden and the Orchard.

CULTIVATION OF FRUIT.—No. VI.

THE QUINCE.

The quince may be propagated by layers, seeds and cuttings. If by cuttings, they are to be taken from the tree in spring, and placed in a light, deep soil, in a moist shaded place, buried not less than ten inches or a foot deep, and leaving but a small portion above ground. If a shaded place cannot be had, spread over the surface of the ground, after they are planted, a coat of decayed leaves. If the weather becomes very dry, water them.

To obtain trees by layers, the young shoots are to be laid down in spring, and buried so as to leave only two or three buds at the extremity, above ground; and when these have grown a few inches, one only is to be left, which will grow the same season, from two to three feet. In the autumn, if well rooted, they are to be removed from the tree and set out in rows; and if the ground is suitable, and they are kept straight by stakes, they will in two years more, make good trees for removal as standards.

The *soil* for the quince should be deep, rich, and somewhat moist. The trees being small, the distance asunder need not be more than eight or ten feet.

The best varieties are the *Orange*, the *Pear* or *Oblong*, and the *Portugal* quince.

The *Orange*, sometimes called from it shape, the *Apple* quince, has ovate leaves, downy beneath, and large roundish fruit, with a short thick neck, and is of a beautiful rich yellow color. It ripens about the middle of autumn. It is the only variety extensively cultivated in this country. There appears to be several sub-varieties, differing slightly in shape, and considerably in size, but little in quality. The largest sometimes weigh a pound.

The *Pear* quince has oblong-ovate leaves, and a smoother, more delicate, and more elongated fruit, of a regular pear shape. It is quite distinct from the preceding, resembles it in quality, but is of more delicate texture.

The *Portugal* quince, though largely cultivated in England, appears to be little known in this country. According to Loudon, it has broad cordate leaves, and an oblong fruit, which is more juicy, and less harsh than the others, and therefore the most desirable. It is rather a *shy bearer*, which must form a decided objection, as cultivators find sufficient difficulty in this quarter, from the most prolific varieties.

Pruning, to the quince is indispensible. If neglected, it soon throws up a profusion of suckers and branches, and ceases to bear plentifully, and the fruit becomes small, knotty and worthless. Such trees, by thorough and judicious pruning, have been known to yield abundantly of fine large fruit, one year after the operation, cultivation of the soil being also strictly attended to.

The Quince forms excellent stocks for some varieties of the pear, improving their quality, and rendering them more productive. The pears most benefitted by quince stocks, appear to be summer and autumn varieties and those of a decisively *melting* character.

The Japan and Chinese quinces are cultivated merely as ornamental shrubs.

A very formidable, and nearly the sole enemy to the quince, is the BORER. This is the larvæ of an insect, which attacks the tree near the surface of the ground, and works inwards, generally *upwards*, but sometimes *downwards*, to a distance of several inches during summer, perforating the wood. These depredators instead of throwing out their excreted matter like the peach worm, *pack* it behind them, as is common with all borers through *wood*.

The insect which produces this larvæ does not appear to be certainly known.* There is however, strong reason for believing it a species of Cerambyx. The writer received a few years since, an insect taken by L. W. Lawrence of Hudson from a quince tree which had been killed by the borer. It was one of several found in a chrysalis state in the trunk of the tree, and from which, the perfect insect sent, was obtained. It was found on examination to belong to the genus Cerambyx of Linnæus and Latreille. The following is a description. Antennæ with ten joints, tapering gradually towards the point, head white, except a light brown spot upon the crown, one of the same color behind each eye, and two very small diverging oblong spots upon the front; eyes very dark brown; labrum brown at the base, yellowish white on the upper surface at the extremity; thorax yellowish brown above with two broad longitudinal white lines, white beneath; elytra yellowish brown above, with two longitudinal white lines along the middle of each, and which are a continuation of the white lines on the thorax; all the lower part of the body hoary white. According to the author of the article CERAMBYX in Rees' Cyclopedia, the larvæ "resemble soft, oblong, slender worms, with a shelly head, furnished with strong jaws, and six feet on the anterior part. *They live principally in trees, the inner part of which they bore through, reducing the wood to powder*, and undergo their changes from the larvæ to the pupa, and thence to the perfect state, in the cavities which they bore."

As the borer very frequently destroys the tree, various means have been suggested and tried to prevent the injury. Incasing the lower part of the trunk in a box of coal dust, pulverized blacksmith's cinders, tar, or unleached ashes, have been tried with various degrees of success. But the best method appears to be direct attack. The soil should be scraped away from the trunk to a depth of two or three inches, and then cut in with a knife lengthwise, and not *across* the bark where it is possible to avoid it, until the insects are found. The operation should be repeated once a week for several times, as there are generally a number in each tree, and some are almost certain to escape the first examination. Afterwards, the wounded parts should be coated with a suitable composition, as a mixture of tar with ochre or brick-dust, or thick paint. As the insects are constantly penetrating deeper, it is a great saving of labor to arrest their progress early, when they can be removed with facility; hence trees should be examined frequently. But when they have been neglected, and the tree becomes much perforated, to attempt to *cut* them out would destroy it; hence the expedient of drawing them out of the hole by means of a *flexible barbed wire*, has been successfully resorted to. At an earlier period, they are easily punched to death in their holes by a flexible twig. It has also been suggested, when the hole is very crooked, to inject strong soap-suds, or a decoction of tobacco, in order to destroy them. But it may be questioned whether this is sufficient for the purpose, as larvæ generally are very tenacious of life, some even continuing to live when immersed in nitric acid or a solution of corrosive sublimate.

Perhaps the best means of effectually preventing the ravages of the borer, would be to graft the quince upon pear stocks, as the latter is very rarely known to be attacked by this insect.* J. J. T.

*The writer has not seen Harris' treatise on destructive insects, which it is presumed, contains all the necessary information; but as others also may not have seen the work, the accompanying observations are detailed.

EARLY FRUIT.

Many cultivators of fruit sustain a material loss by not directing their attention more particularly to the *earliest varieties*. They often allow one month to pass, unsupplied, when they might be furnished with abundance. The earliest garden vegetables frequently sell in market for ten times the common price, and early fruit possesses equal comparative value. They are not worth less for the cultivator's own use.

Strawberries and raspberries, of select varieties, would soon furnish a supply of delicious fruit; and when a very few weeks have elapsed, the earlier varieties of apples, pears, peaches, plums, and most varieties of apricots, will be fully ripe. To assist in procuring these, it may be stated, that the Yellow Harvest, Summer Pearmain,

* In a communication, read a few years since, before the Mass. Hort. Soc. by E. M. Richards, it was stated that the plan called Southernwood, planted at the foot of the apple tree, effectually repelled the borer. It may be worthy of trial.

Juneating, and Bough apples; the White Primordian plum; the Amire Joannet, the Primitive or Little Musk, and Madeleine pear; and nearly all varieties of the apricot, ripen before or during wheat harvest; while the Early White Nutmeg peach immediately follows; and the Early Ann and Early Tillotson peaches produce excellent ripe fruit, at least two or three weeks before the common varieties of the red rare ripe, which are so generally considered as standing first on the list for early maturity.

TALK ABOUT FRUIT.

At the Farmer's meeting at the State House, Boston, on the evening of the 27th Feb., the subject for discussion was fruit and fruit trees. From the Mass. Plowman we condense the following:

Mr. BRECK of the N. E. Farmer, thought the best way to prevent the depredations of birds, on cherries, was to raise enough for them and ourselves too.

Mr. B. thought the peach a valuable fruit, but in this climate it is very uncertain—it is sometimes killed by the severity of the winter. He prefers budding stocks in September.

Mr. B. V. FRENCH thought orchards should be plowed, or a space around the trees be kept well dug. He prefers the spring for transplanting—washes with potash water, sometimes lime—has used soap. He is much in favor of very deep plowing on first setting out an orchard—had sometimes used a sub-soil plow, and stirred the ground more than twelve inches deep. He sets alternate rows of cherry, apple and pear trees, with peaches also, in the intermediate spaces. Prefers to set peach trees quite late, even after the blossom begins to appear. In pruning, he cuts no large limbs, and finds he needs to cut none if he begins to trim when the trees are young. Plums, he thinks, do best near salt water—but they are an uncertain fruit on account of the curculio; which no one has as yet found an easy way of destroying.

Mr. GRAY thought the spring best for transplanting. He has had trees suffer much from dry weather, and has saved them by putting moss round them. [Probably straw or chaff would do about as well.] He thought it too much work to tar trees to stop canker worms. He has seen square boards placed about the trunks at the cost of a shilling each, which was preferable to tarring. A wadding was stuffed between the board and the tree, and tar put on the under side of the board out of the reach of the sun and rain, where it would keep soft much longer. He prefers to set apple trees 40 feet apart—prunes when young.

Mr. G. thought the apple was the staple fruit of Mass. and a reasonable profit might be expected from an orchard. Pear trees may be easily raised here—they are longer than apple trees in coming to maturity, but they last longer. The old Endicott pear tree at Danvers, is now 150 years old. As to caterpillars, when young, the nests may easily be taken off with a conical brush. Canker worms will not annoy an orchard that is kept in tillage, so much as one that is left in grass.

Hon. Mr. DODGE observed that the cultivation of fruits was an interesting employment, and we had here great inducements to engage in it. He had no fears that the influx of productions from the west would spoil the business here. If we make proper use of our advantages, we shall not be injured. He said farmers were under great obligations to the Horticultural Society for the introduction of new fruits and the investigating the subject of the various insects that destroy them.

Mr. D. raised pear trees from seeds. For producing apple trees, he sows pomace, and sows ashes with it to correct the acid. He buds apple and peach stocks, the second year after they vegetate—buds peach trees the first summer—always takes buds that are fully matured, and suffers the little slip of wood to remain with the bud lest the eye should be injured.

Mr. COLE said there was no necessity that apple and pear seeds should freeze before they will vegetate; but to ensure germination, it is necessary to keep them moist. He kept two boxes of seeds in a cellar, one was kept wet, the other left dry—the wet ones came up readily, but the dry ones did not vegetate till the next year.

It seemed to be the general impression that it was best not to put trees deep in the ground when transplanted, and so far as experiments had been made, the plan of putting them entirely on the top of the ground, and covering the roots with compost of muck, loam, &c. seems to do very well.

The editor of the Plowman says there was a greater unanimity of opinion on the subject of managing fruit trees, than there used to be a few years ago. This is an evidence of the advantage of *comparing* opinions.

FRUIT TREES ON DIVISION LINES.

"MESSRS. EDITORS—Although I do not suppose you consider the Cultivator as a law journal, yet your opinions on the following case would oblige at least one of your subscribers. When a fruit tree is planted so near a division line that a part of the branches pass over the line or wall, to whom does the fruit on such branches belong? and has one neighbor a right to enter another one's grounds to gather fruit so grown? INQUIRER."

We are no lawyers; and the discussion of law questions forms no part of the proper business of the Cultivator; yet as the queries proposed are fairly put, and relate to matters sometimes misunderstood, and consequently the sources of contention and litigation among neighbors, we shall give our notions on the subject; premising that in so doing, we have no intention of trespassing on the domains of the gentlemen whose right it is to discuss and settle all questions of law and equity.

The answer to the first question is, that the right or title to the whole tree, trunk, branches and fruit, belongs to him on whose land the tree is standing. There is an old maxim, "Whoever owns the ground, owns all above it up to the sky;" and this has doubtless led some to suppose that fruit in the case supposed by our correspondent, changed owners by passing a wall or line. The first decision reported of this law question, was in 1693, and to this effect; that if A. planted a tree so near the land of B. that its roots extended into B.'s land, then A. and B. were owners or tenants in common, of the tree. But if all the roots grew in the land of A., although the branches did reach over the land of B., the whole property was in A. This decision, was, however, so clearly erroneous, that it has been over-ruled and set aside by later authorities, both English and American. In the case of Lyman *vs.* Hale, decided in 1836, in Connecticut, where the whole subject was ably argued, it was decided that when the trunk of a tree stands on the land of A., and sends its branches over, and its roots into the land of B., such overhanging branches and the fruit are the sole property of A.; and if B. gather such fruit, he is liable to trespass on A. In the language of a Report made to the Massachusetts Legislature in 1841, "The man who allows the branches of his tree to overhang his neighbor's farm, undoubtedly commits a wrong; but he does not thereby lose his title to those branches, any more than he would the title to his cattle by their being found trespassing, through his negligence, upon his neighbor's field."

The law respecting taking fruit grown as stated in the second query, would not seem quite as well settled as in the first instance, and decisions are somewhat contradictory. In the reign of James I. it was decided that "if a tree grew in a hedge, and the fruit fall in another man's land, the owner may fetch it in another man's land;" but in a case in 1832, it was decided that such right existed only where fruit so fell by accident: and Chitty considers this last case as settling the law on this point. The law, however, respecting the first query, virtually decides the last. The man who plants a tree to overshadow his neighbor's land, or sends its roots into his soil, does him an injury, and permits a nuisance, for which there are obvious and easy remedies. Justice Croke early decided that "one may cut down boughs if they hang over his ground," and the Conn. Courts, in the case of Lyman *vs.* Hale, held the same doctrine. Chitty confirms this as the law, but in the spirit of a good citizen, adds, "It would seem that there ought to be a previous request to the neighbor to abate the nuisance, before I proceed to abate it myself." Napoleon, who suffered not the minu

test matters of right to escape his notice, thus enacted in his code: "Art. 672. A neighbor may require trees and hedges planted at a less distance, (lofty trees two metres, and low trees half a metre from a division line,) to be pulled up. He whose property is overshadowed by the branches of his neighbor's trees, may compel the latter to cut off such branches. If it be the roots that encroach on his estate, he has a right to cut them therein himself."

It seems then that the tree planted by A. is his throughout; but if he allows it to trespass on his neighbor, it becomes a nuisance, and is to be abated accordingly. When this is done, no question can arise respecting the fruit or the right of gathering. We beg leave, however, to say here, that those who are in favor of going strictly according to the letter of the law in all their dealings, yielding nothing to comity or neighborly feeling, will be very apt to find their estates passing into the lawyer's pockets, and they soon left without lands or trees to differ about.

CATERPILLARS.

In a late excursion through the State, we were surprised at the great number of caterpillars on the apple-trees. In the Mohawk valley, in particular, the foliage of the trees was in many instances almost entirely eaten up by them. It is really astonishing, that after having been at the trouble to raise trees, people will suffer them to be destroyed in this way. Caterpillars may be easily killed if taken when young. The best way is to take them early in the morning, before they get out of their nests, and wipe them off clean, web and all together, and crush them under foot. If there is any that cannot be reached by the hand, use a conical brush, attached to a pole, which will take them off pretty well. Spirits of turpentine, oil, and some other substances, are sometimes recommended to kill them. We have tried oil and turpentine, but found them to be injurious to the tree—frequently killing the branches to which they were applied. We should not, therefore, recommend their use.

Another matter very much neglected in many places, is the pruning of trees. We noticed several old orchards on the Mohawk, which seem to have been for years totally neglected in this respect. The branches were as thick, and interlocked as closely as a thorn hedge. It is impossible trees can bear fruit that is good for anything, while in this situation. They should be kept constantly pruned, leaving the proper branches free and open to the air and sun. This will give fruit of good size and flavor.

CHARCOAL FOR PEACH TREES.

Messrs. Editors—A friend of mine has just informed me of the success he has met with, by the application of charcoal to his peach trees; a few years ago he had some fine trees in his garden which invariably had wormy fruit; and the trees full of gum; when the fruit was about the size of marbles, he had the earth removed from each tree about 2 feet around and 3 inches deep, and filled up with charcoal; the result was that the fruit grew to a fine size free from worms; and every year since, the fruit has been good, and the trees became healthy and free from gum; while two trees left without the charcoal, continue to bear wormy fruit, and the trees unhealthy; as this will be in time for the readers of the Cultivator to make a trial this year, and should it prove as good with others as in this case, it will certainly be of great benefit to the fruit grower.

If farmers will plant their pumpkins, melons and other vines on land that brought corn the past year, they will never be troubled with the striped bug. This course has been practiced here for many years, and *has always* proved successful, when vines planted on land that had any other crop, even vines the year previous, are destroyed by the bug.

H. R. Robey.

Hopewell, Va., May 10, 1844.

Chip or Scollop Grafting.—At a late meeting of the Farmers' Club, New-York, Mr. Carter described and performed this mode of grafting. A chip of bark and wood is cut out of a stock, a like chip is taken for the graft, and is inserted by little corresponding slits at each end to make a good fit. It is said that by this process, seed fruit can be successfully grafted on stone fruit, and *vice versa*.

Veterinary Department

CURE OF SWINNEY.

A correspondent of the Southern Cultivator gives the following for the cure of swinney or swaney in horses:

"Put a twist upon his upper lip, and introduce the small blade of a common pocket knife, (the point of which must be sharp,) into the thinnest part of the shoulder, which will be near the upper margin of the shoulder blade, and push it directly in until you reach the bone, holding the knife as you would a pen when writing, and scratch up the membrane that covers the bone for a space of the size of a silver dollar; the knife may then be withdrawn, and after the small quantity of blood that follows is wiped away, the orifice will not be seen. The knife may then be introduced in one or two places below the first, and used in the same way, and the operation is over. This may be repeated in six or eight days; we have but seldom found it necessary to repeat the operation more than twice or thrice, and in many cases a single operation will effect a cure."

TO REMOVE CHAFF, &c. FROM AN ANIMAL'S EYE.

Messrs. Editors—I send you the following description of an easy way to remove chaff or similar substances, from an animal's eye. Procure a small quantity of honey, and having the animal's head held fast, open the eye with the thumb and finger of one hand, dip the forefinger of the other in the honey, taking up as much as will stick on the end of it, and holding it near the eye, give it a sudden strike so as to hit the chaff with the honey on your finger, when the chaff will stick to the honey and be drawn out. If you do not hit it at first, try again. The reason of giving a sudden strike is, to hit it before the animal can shut or roll the eye, as it will do, if you attempt to touch it in a slow manner.

The above remedy, at the suggestion of a neighbor, I tried on a steer's eye that had an oat chaff in it for a week, and was inflamed so much as to be white in appearance, and totally blind, yet the chaff came out on my finger, and the eye was well in a few weeks. I have tried it since with like success. A dry oat chaff spread on the moist eye-ball will stick so that the animal cannot get it out, and when moistened by the eye-lid will not be seen without a close examination, yet it will destroy the eye if not removed. I suppose the above is not a new thing, but perhaps it may benefit some one of your readers.

Disease of an Ox, &c.—We lost an ox under the following symptoms. He was seen in the morning rubbing his head and chin with great violence on the fence, and against trees, &c., and so continued at intervals of a few minutes, till one side of its head and chin was raw, bloody, and much swollen, when he died in the afternoon. Some said it was the mad-itch, but knew no cause or cure. Perhaps you can tell. Do cattle ever have maggots in the head, like the sheep? We lost a sheep that acted precisely as the ox did, and on examining its head a maggot was found, which no doubt caused its death. The ox's head was not examined so closely, as to be sure whether it died from the same cause or not.

N. W. C.

Four Corners, Huron Co., Ohio, Jan. 1, 1844.

We do not know that the *cause* of what is called *mad itch* has ever been discovered. In the tenth volume of the Cultivator, page 95, it is stated, "that Mr. Simms, of Indiana, after losing several cows by this disease, succeeded in curing the remainder by the following treatment. As soon as the animal was attacked, he gave it as much soot and salt as it would eat. In a few hours he gave it from three-fourths of a pound to a pound of sulphur, and in the morning as many salts. It is the opinion

of Mr. S. Rust, sulphur alone would effect a cure, though he accompanied its action with salts."

The ox is not affected with worms in the head, like the sheep; though we have heard of instances of *leeches* getting up into the nasal sinuses and occasioning the animal much pain. We do not think that "one maggot" in the head of a sheep, would kill it, or occasion it much inconvenience—in fact it is a matter of doubt how far these insects ever affect the health or comfort of the sheep. But we purpose to take up this subject more in detail at a convenient opportunity.

HARD MILKERS.

I have had but little experience with hard milking cows, but have known a small piece of *wheat straw* inserted repeatedly without causing inflammation, as mentioned on p. 166 of this paper; a straw may be softer than a quill, or there might have been "more of good luck than good management." But if long continued, the milk would flow out at all times. I do not recommend this practice except in one case, and that is, when cows' dugs become sore or wounded, the milk may be drawn without difficulty for a short time, till the sore part can heal. The irritation of milking sometimes keeps up a sore a long time; and in one case where a cow's teat was badly torn in a brush-heap, it could have been milked in no other way. As a matter of course, the point of the teat should be well softened with new milk before the straw is inserted; and if carefully done, it may, like medicine a choice of evils, save a cow's udder from *caking*, and prevent the partial ruin of a fine animal.

J. J. T.

REMEDIES FOR DISEASES OF CATTLE.

Colic.—The best remedy is 1 pint of linseed oil, mixed with ½ of laudanum.

Diarrhœa.—Give half an ounce of powdered catechn, and 10 grains of powdered opium, in a little gruel.

Fever.—Bleed; and then if the bowels are constipated, give half a pound of Epsom salts in three pints of water daily, in gruel.

Hoove or Hoven.—Use the elastic tube; as a preventive, let them be well supplied with common salt, and restrained from rapid feeding when first feeding on rank grass or clover.

Mange.—Half a pound of black brimstone, quarter of a pint of turpentine, one pint of train oil. Mix them together, and rub the mixture well in over the affected parts.

Milk Fever or Garget.—Two ounces of brimstone, two ounces of diapente, one ounce of cummin seed powdered, one ounce of powdered nitre. Give this daily in a little gruel, and well rub the udder with a little goose-grease.

Murrain.—Half a pound of salts, two ounces of bruised coriander seed, one ounce of gentian powder; give these in a little water.

Poisons swallowed by oxen are commonly the yew, the water dropwort, and the common and the water hemlock; one and a half pints of linseed oil is the best remedy.

Purge, in Poisoning.—Either one pound of salts in a quart of water gruel, or a pint to a pint and a half of linseed oil.

Sprains.—Embrocation; one ounce of sweet oil, four ounces of spirits of hartshorn, half an ounce of oil of thyme.

Sting of the Adder, or Slow-worm.—Apply immediately strong spirits of hartshorn. For sting of bees, apply chalk or whitening mixed with vinegar.

To take Film from a Horse's Eye.—Blow loaf sugar and a little salt into the inflamed eye, and in most cases it will be relieved. Sassafras buds pounded, and put in water, to stand till it becomes nearly as thick as cream, applied to the eye is an excellent remedy for inflammation.

To relieve Colic in Horses.—Rub spirits of turpentine on the breast of the horse; and if he be drenched with it he will be relieved. Horses should never be put to severe work on a full stomach; more horses are hurt by hard driving after a full feed, than by a full feed after hard driving.—*English Far. Journal.*

Domestic Economy

TO PRESERVE TOMATOES.

Messrs. Editors—As I am very fond of tomatoes, and have a way of preserving them to use, when the season for them is over, a way which I have never seen proposed, although others may have heard of it, I have concluded to send it to you, that you may publish it if you think proper.

Dip the ripe tomatoes in scalding water, peel them, and divide them into two, or if very thick through, three slices, lay them on plates and put them into the oven after the bread is drawn; if a good oven, by the time it is cool, or in 48 hours, they will be perfectly dried; put them into paper bags and keep in a dry place; when wanted for use, dip them into cold water and lay them on a dish to swell, and in a mince or stew, they are almost equal to the fresh fruit. If you wish to make tomato sauce, add a little water to cook them in. They are very good to eat out of hand in the dry state.

Brooklyn, May 6, 1844. A Female Reader.

PRESERVING EGGS.

I have just read the mode of preserving eggs in the last number of the Cultivator, and a lady at my elbow, for whom I have the highest esteem, informs me that she preserves them as follows, and has never taken up a bad egg, after keeping them all winter:—Put a layer of salt in the bottom of a jar, and stick the eggs into the salt, *point downwards*, till a layer of eggs is made, when more salt is put in, and again a layer of eggs, and so on successively till the jar is full. Having often eaten of the eggs, I know the mode to be a good one. T.

Weak Eyes.—Wash the eyes frequently in cold water if they are in the least inclined to weakness.

Make a wash by pouring water over a jar full of rose leaves; let it stand all night, and then strain the water. It will be found excellent for the eyes, and should be used frequently.

A poultice made of rose leaves is good for a stye upon the eye-lids.

If the eyes are very weak, boil a handful of freshly gathered salad in a pint of water, strain it, and apply the liquor to the eyes at intervals. It will be found very soothing. A poultice of boiled salad leaves will also relieve severe pain in the eyes.—*Selected.*

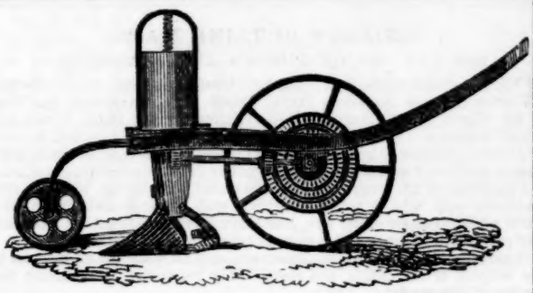
COTTON GIN—SEA ISLAND COTTON.

Mr. Editor—In the May number of the Cultivator for 1844, is an inquiry relating to a Gin for Sea Island cotton. It is asked if a machine differing from the common roller gin, propelled by the foot of the tender, is used by the growers of this article?

To the first qualities of cotton cultivated in South Carolina, no gin is so well adapted as the common foot gin. There have been many constructions of the self-feeding gin propelled by horse power, steam, &c. The fibre of Island Cottons attaching very closely to the seeds, and these gins not removing it without cracking them, they are unsuitable.

Your correspondent must be sensible that the value of long cottons is affected by the manner of its preparation. Unnecessary exposure to the sun, careless handling, &c., are to be avoided. Indeed to dispense with sunning it, has been the desideratum. No possible good can result from it. Still as prepared at present some exposure is unavoidable. A recent invention removes this necessity. A gentleman of the Carolina Sea Island plantations, has constructed a gin for the cleaning of these cottons which renders exposure unnecessary. This machine is moved by the foot of the operator, will clean from forty to sixty pounds per diem. It is on the roller principle.

The merits of this invention were recognized by a Society of Agriculturists in their award of one hundred dollars to the inventor. It will, your correspondent presumes, be patented. The Charleston papers of a subsequent date may furnish your inquirer with more detailed information. *Charleston, S. C. May 14, 1844.*



SEED PLANTER.

In another part of this number, will be found an article on the growing of turneps, in which it is recommended to sow the seed with a machine. We here give a cut of a good machine for this purpose. It was invented by Messrs. T. & J. Lewis, of Boston. It is calculated for planting all kinds of garden seeds, as well as corn. By the use of a set of rotary plates fitted to the hopper, all kinds of seeds in hills or drills, from three inches to six feet apart. Several gentlemen have testified that it is the most perfect machine of the kind they have seen. The price is $15.

SHEARING SHEEP.

In this climate, sheep should not generally be sheared much before June. After having been sheared, they should be protected by shade from the hot sun, and if the weather turns cold, or a storm arises, they should be allowed the shelter of sheds. Three or four days after the sheep are sheared, the *ticks*, if there are any, will all go on to the lambs. Immerse the lambs in a weak decoction of tobacco, and you will thus get rid of them. Take care to wet the skin fairly, but do not keep the lamb too long in the liquid, and take care that it does not get into his ears, eyes or mouth, as it will make him sick. Ticks occasion the sheep much trouble. To relieve themselves from the intolerable itching which the ticks create, the sheep bite and scratch themselves with their teeth, by which much wool is pulled out and wasted, and the sheep, besides, loses flesh rapidly. The mode here mentioned, is the readiest one of extirpating ticks.

A POTATOE DIGGER.

In answer to the inquiry of our correspondent "Viator," we give the following extract from the Report of the Committee on Agricultural Implements, at the late Fair of the American Institute: "A Potatoe Digger, exhibited for a premium by Mr. A. C. Ketchum of Schenectady, N. Y. This machine consists of two parallel sides furnished with handles resembling those of a plow; they are about fifteen inches in width and two feet apart. In front is an iron plate which is intended to penetrate the earth to a depth just below the potatoes required to be dug; behind this plate, near the bottom of the sides before described, are two pullies, one on each side; and on the upper edge of the sides, about three feet behind the others, are two more pullies, over which two endless chains revolve when the machine is in motion. These chains are connected by small iron rods, about two or two and a half inches apart, and parallel to each other. When this machine is put in motion, the earth with the potatoes is passed over the plate on to the parallel iron rods, through which the chief part of the earth first falls, and then follow the potatoes. It is clear that this machine will not act advantageously in a tough, rigid, or very wet soil. Your committee witnessed its operation in such a soil, and were not disappointed at its partial success. Nevertheless they are unanimously convinced, that the principles developed in this machine are such as to merit the encouragement of the Institute, on the ground that it will answer an excellent purpose in a light dry soil; of which Mr. Ketchum presented a satisfactory certificate; and they have no doubt it may be improved so as to operate in other soils."

DURHAM BULLS, DUKE OF WELLINGTON AND METEOR.

AS frequent applications are made by gentlemen at a distance for the use of these animals, to prevent applications by letter this notice is given.

These animals will be let to cows at $10 each; the money in all cases, to be sent with the cows, and paid to the subscriber. Wellington was bred by Thomas Bates, Esq., of England, and out of his prize cow, Oxford, celebrated as a milker. Meteor bred by Mr. Geo. Vail, of Troy, and out of his imported heifer, Duchess, and got by Wellington. Duchess was also bred by Mr. Bates, and got by his celebrated prize bull Duke of Northumberland. These animals are on Mr. Vail's farm, about two miles from Troy, and will be allowed to serve a few cows out of his own herd. Pasture for a short time may be had for cows sent, at the usual prices. Apply to the subscriber on the farm.

April 1, 1844.—3t. A. CLOCKIE.

FINE FARMS FOR SALE.

THOSE very superior Farms situated near Galway Corners, in the county of Saratoga, collectively known as the Earl Stimson Farm, will be sold cheap and on terms most accommodating to the purchasers as to credit. The property consists of about 340 acres, is so situated as to be conveniently divided into three or four farms, all having the necessary buildings, and will be sold together or in parcels, to suit purchasers. Each farm is properly divided into pasture, tilled and wood land, and is in the highest state of cultivation, fenced in the best manner and with the most durable materials. The property comprises among other buildings, a large and convenient hotel, which is a favorite resort of families in the summer on account of the superior healthiness and beauty of the country. The farming buildings of all kinds are most extensive and convenient for all the purposes of agriculture and the raising of stock. The premises also include a country store, a most eligible location for a country merchant, having been occupied as such for about forty years. It is within two hours drive of Ballston, Saratoga, and Schenectady. The farm is well known among leading agriculturists, and in the agricultural periodicals, as the Pattern Farm. For terms, &c., apply to J. OAKLEY,

Oct. 1.—tf. No. 75 Nassau street, New-York.

GREAT SALE OF ELECTORAL SAXON SHEEP.

THE undersigned will sell at vendue the two flocks of *Pure Electoral Saxon Sheep*, belonging to the estate of the late Henry D. Grove, as follows:

1. That at Grainger, Medina co., Ohio, consisting of about 400 sheep, on the farm now occupied by them, on the 30th of *September next.*

2. The home flock, at his late residence in Hoosick, Rensselaer county, N. Y., consisting of about 350 sheep, on the 15th of *October next.*

A rare opportunity is offered to those who may be anxious to improve the quality of their flocks. The following is the opinion of the distinguished manufacturer who has usually purchased Mr. Grove's wool, of the character of these flocks:

"The purest blood in this country was introduced by the late Mr. Grove in his own flocks, the wool from which I have been familiar with since their importation in 1827. In point of fineness and admirable felting qualities, this wool is unsurpassed by any flock in this country, and the fleeces average about half a pound each more than any other I am acquainted with of equal fineness. SAM'L LAWRENCE.

Lowel, April 9, 1844."

Terms of sale, cash.—Reference, Sam'l Lawrence, or either of the subscribers.

Buskirk's Bridge, April 20, 1844.

ELIZA W. GROVE,
W. JOSLIN,
S. A. COOK.

my1.—5t.

IMPROVED CATTLE, SHEEP, SWINE, &c.

WITH a view of facilitating the diffusion of Improved Breeds of Cattle—of superior fruit-trees and seeds for field-crops, and of improved farming utensils, a register will be kept at the Hall of the State Agricultural Society, in the Old State-House, Albany, for the purpose of recording the names and residences of persons having any articles of the above character to dispose of. Farmers, stock-breeders, fruit-growers and mechanics, who desire to buy or sell improved articles of any kind needed in farming, can have their requests registered by addressing the subscriber, post-paid—no charge being made for the service. It is desirable that the directions shall be, in all cases, as specific as possible in reference to prices, qualities, &c.

The frequent requests for information from persons desirous of improving their stock of cattle, sheep and swine, as well as their crops of wheat and other grains and fruits, induce the belief that a registry of this kind will be found measurably useful in promoting the objects of the State Agricultural Society—as it often happens that farmers are induced to try experiments when improved breeds and seeds can be conveniently obtained.

Various improved breeds of cattle, sheep, swine and fowls, are now registered; as are also sundry improved varieties of wheat—well worthy of attention from farmers desirous of bettering the condition of their stock and crops.

Agricultural, and other journals friendly to the objects of this notice, are requested to give it an insertion.

HENRY O'REILLY, *Rec. Sec. State Ag. Soc.*

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☞ ADVERTISEMENTS inserted in the Cultivator, at $1,00 per 100 words for each insertion.

DICKSON'S IMPROVED RUTA BAGA.

THE subscribers have lately received 2 cwt. of this new variety of Ruta Baga, raised last season by Mr. Dickson of Lancashire, England, and admitted by all the judges at the Agricultural Premium Shows in Great Britain, to be the largest, most solid, nutritious, and clean growing of all the cattle turneps raised in England, where it obtained numerous prizes, and is *confidently* recommended to the farmers of this country as a decided improvement over the ordinary Ruta Baga; price $1,50 per lb. One pound will sow an acre. Also, Betterave Jaune Allemange or German Orange Sugar Beet, a fine quality, and more productive sort than the White Siberia; was tried in our climate last season with complete success, $1 per lb. Also, *White Belgium Green top Carrot* for field culture, superior to all others, both in size and quality, $1.50 per lb. The above are now in season for sowing, and will be warranted as represented, growth 1843.

J. M. THORBURN & Co.
June 1—1t. 15 John-street, New-York.

AGRICULTURAL IMPLEMENTS, &c.

THE undersigned are Agents in this city to sell the following celebrated machines, viz:

Hussey's Premium Corn and Cob Crusher.
Dickey's " Fanning Mill.
Platt's " Portable Grist Mill.
Hovey's Premium Straw Cutter, (Spiral knives.)
Warren's " "
Hull's Stalk and Straw Cutter.

Being proprietors of the now celebrated "Warren's Improved Portable Horse Powers and Threshing Machines," for one, two and four horses, they continue to manufacture and sell them with increased success and satisfaction. Of the two horse machines, one correspondent states, "after a fair trial with barley and wheat with two horses, I can thresh in a clean and thorough manner, at least 30 bush. wheat in 1 hour with comparative ease to the horses; and this day, without driving them at all hard, in sixty minutes, 200 sheaves of wheat of a large size were threshed out in a clean and excellent manner, which is about 15 bushels. The straw, after threshing, is easily bundled; and as it comes out whole and unbroken, I consider these machines on that account important; and as only three hands are required to do the work well, I think the great saving of labor such an item as to make them what is much needed by many of our farmers in this section of country."

The prices for these machines are very low, viz:—two horse power alone, only $50—two horse power and thresher, together, $75—one horse power and thresher, $60—four horse power and thresher, from $100 to $110. Cash payable in this city on delivery. Liberal deductions made on all machines and implements to dealers.

L. BOSTWICK & Co.
June 1—1t. 146 Front street, New-York.

PELTON'S OUTLINE MAPS,

FOR THE USE OF SCHOOLS AND ACADEMIES.

THIS series of Maps, just published, contains all the recent discoveries, the new boundary line of Maine, &c., comprising the Map of the World, North America, United States, Europe, Asia, Africa and South America. Each map containing about forty square feet, is richly colored, varnished and mounted on muslin in the best manner, with a neat roller and moulding. For accuracy they are unsurpassed; and the boldness of the engraving, the richness of coloring, and the distinctness with which both the natural and political divisions of the earth are addressed to the eye, can scarcely fail to attract the attention and produce a distinct and lasting impression upon the mind.

Superintendents, Trustees, Teachers, and all who feel an interest in the subject of education, are respectfully requested to examine the merits of this work.

The above maps are for sale by the subscriber, at his residence, 27 Ferry-street, and at the book store of W. C. Little, Albany.

E. C PORTER,
May 15, 1844—1t. *General Agent for the State of New-York.*

N. B. Schools that are now supplied with Mitchell's Outline Maps will be allowed a fair price in exchange for Pelton's. Should any prefer Mitchell's, they can be supplied with them at a price from $6 to $10 (the usual price being $15) for the whole set; the subscriber having obtained them in exchange for Pelton's. E. C. PORTER.

MADDER SEED.

THE very high prices which the Madder Dyes of France and Holland have attained, are sufficient to excite the attention of our intelligent agriculturists. It is only necessary to take into consideration the immense quantity of Madder consumed in the various manufactories of the United States, to be convinced that the cultivation of this plant would be attended with great advantages, and that it may be undertaken with certainty of profit.

The Madder root can be cultivated in almost every climate. The sands of Silesia, the marshes of Zealand, the arid soils of the South of France and Persia produce it, and of almost equally good quality. It is well known that atmospheric influences make but little impression upon a root, the valuable part of which grows beneath the surface of the soil; and what a powerful guarantee does this circumstance afford to the cultivator of the Madder. It protects him from all varieties of temperature, which so frequently destroy crops of a different nature. For those who cultivate this root, a crop is assured as soon as the seed which they have put into the ground begins to germinate.

A special report upon the cultivation of this plant was laid before the Academy of Sciences at Paris, and a prize awarded to the author. It was written by M. de Gasparin, Peer of France, Member of the Institute, and formerly Minister of the Interior. An extract made from it, which is itself sufficient to instruct all who wish to direct their attention to this new branch of cultivation in this country, will be furnished on application. French Madder Seed, obtained from last year's crops, may be had of the subscribers, who have received a consignment of a considerable quantity. Price $1 per lb., or at reduced rates when a quantity is taken. J. M THORBURN & Co. 15 John-st., N. Y.

June 1—1t.

HUSSEY'S REAPING MACHINES,

GREATLY improved, warranted to cut twenty acres of wheat in a day. The same machine, by a change in some of its parts, will cut hemp; this was satisfactorily proved last year in Kentucky

Hussey's Corn and Cob Crushers, lately much improved. Price from 25 to 45 dollars, with a set of extra grinders.

Hussey's Corn Shelling and Husking Machines, all manufactured and kept for sale by the subscriber, in Baltimore, Maryland. All other agricultural implements made to order. Baltimore possesses ample facilities for shipping to all ports of the United States. OBED HUSSEY.

TO GENTLEMEN FARMERS.

A YOUNG Scotchman (unmarried) is desirous of obtaining a situation as overseer on a farm. He has received a liberal education, and for several years has devoted his whole attention to the attainment of all the improvements and details of modern husbandry, now practiced with so much success in Scotland. He is also conversant with the management of cattle.

His credentials are of the highest order, and from individuals known to the advertiser. Salary not so much an object as employment in a healthy situation and a comfortable home.

Apply to Watts Sherman, Esq. City Bank, Albany, or to Dr. A. T. Watson, Jr., New York city. 2t

PROUTY & MEARS'

Patent Centre Draught Self-Sharpening Plows,

OF various sizes and prices, from $4,50 to $13 each, with an extra point and share. Wheels will be attached when required. These plows are now believed to be the most perfect plows in use. They are strong, and can be kept in repair at a small expense. Among the premiums which have been received for these plows the following may be named. at Worcester $100; Boston $20, and a gold medal; New-York a gold medal; from the Philadelphia Agricultural Society $10; at Wilmington, Del., first premium; at Govanstown, Md, silver cup; at Prince George, Md., silver spoon. Also Subsoil Plows at 6, 8, 10 and 12 dollars each. For sale wholesale and retail at the Seed and Implement Ware-house, No. 176, Market-st., Philadelphia, by 2m. D O. PROUTY.

FROM THE STEAM PRESS OF C. VAN BENTHUYSEN & CO